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T E B I W A

The Journal of the Idaho State College Museum

Volume 2, Number 1 Winter, 1958-1959

Editor: Earl H. Swanson, Jr., Director of the Museum.

Published in the Office of the Faculty Secretary, Idaho State College:
Kathleen Isaac, Director.

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THE EDITOR'S PAGE

This issue marks the expansion of the journal of the Idaho State College Museum, and a reduction in numbers per volume. To mark the inclusion of original papers, we have changed the name, selecting Tebiwa, and subsuming Notes and News. Tebiwa is an anglicization of a Bannock word meaning, approximately, "homeland" or "native land." Cognate forms are found in related Shoshone languages once spoken in the Great Basin and parts of the Plateau. Under this definition we expect to publish papers from a variety of disciplines, with area emphasis on the Northwest. This will not thereby exclude papers of wider interest, nor is it intended that they only be products of original research; (some) polemics are welcome. Because of the expansion in pages per issue, only two numbers will be included in each volume, published in late autumn (early winter?) and spring.

A great deal has been said, at conferences and in discussions, about Northwest prehistory, but little is yet available in print for many portions of this vast region. The archaeological papers in this issue should help to fill in some of the gaps that have troubled those working in the area in the past eight to ten years. It should be made clear now that the stimulus for virtually all the work done in Washington and Idaho during that time came from Dr. Douglas Osborne, formerly at the University of Washington. As more data and interpretations are published in the next two years, it will become apparent to all just how much is owed him.

A debt is already owed, too, in the area of pioneer history, to the vigorous direction of the Idaho Historical Society by H. J. Swinney. His editorship of Idaho Yesterdays has been excellent, and the journal deserves wide support and numerous readers.

The preparation of this, the first Tebiwa, has been a collective effort, involving Donald Tuohy and Alan Bryan for the Museum, and Kathleen Isaac, the Faculty Secretary, whose good judgment is reflected in the good qualities that this may have.

Earl H. Swanson

N O T E S A N D N E W S

Since the last issue of the journal, the Museum and its staff have been very busy indeed. A new exhibit has been initiated, but not completed, on "qualitative" achievements of men irrespective of technological stage. Another exhibit on ecology is in the planning stage. Monthly changes in the exhibition of Northern Shoshoni basketry continue, and currently a specimen from the DeArmond Collection is on view. A number from the Dean E. O. Leonard Collection have also been shown.

There have been a number of visiting firemen at the Museum, including Dr. Ruth Underhill, Professor Emeritus at Denver University, Dr. Åke Hultkrantz of the Swedish National Museum, both here in August. Dr. Philip C. Orr, Director of the Santa Barbara Museum, came in July, while Miss Ruth Gruhn, of Harvard, came and spent some time in the field in September, and Dr. Robert Anderson, of the University of Utah, spent a morning in the Museum in October.

The Archives receive increasing use from historians and students. Currently, Mr. Jay Lowe is using them in preparing an M.A. thesis at Brigham Young University, and Mr. Ken Owens, of the University of Minnesota, spent time here in connection with a thesis in history.

Research flourished the past summer, with Miss Hopkins and her assistant, Miss Charlotte Holton, of the University of California, Mr. Fortsch, and others, finding numerous skeletal remains and obtaining new data on faunal associations. This was supported by a National Science Foundation grant. Three archaeological survey teams, operating under contract from the National Park Service, explored potential reservoirs in the Snake and Salmon River systems. Some 650 sites were recorded, and over 8000 artifacts recovered and returned to the museum for study. Good distribution studies are possible, and in process, on the basis of the information at hand. The final report is nearing completion.

A Sigma Xi grant of $350 was made to Dr. Swanson, Museum Director, for study of prehistoric environments along the Snake River. Much of this project remains to be done.

While field work has been under way, accessions through gifts have continued to come to the Museum. Many of these are outstanding for exhibit purposes, while others serve principally in the study collections where they may be used in training students or in research. Documents, such as letters, business correspondence, diaries, observations, have not been forthcoming, however. These should be available, and assistance is needed in locating existing material in the region.

MUSEUM ACCESSIONS

Gifts:

BORYS MALKIN, University of Minnesota - Two Sumu fishing arrows.

GERALD LEE CARLSON, Terreton, Idaho - Negrito quiver and four arrows, Philippine Islands.

JOHN TRIMMING, Pocatello, Idaho - Glass lampshade.

GEORGE DUNFORD, Boise, Idaho - Handmade 19th century wooden loom.

EVA KASISKA, Pocatello, Idaho - Navaho rug, German beer stein, early American coffee pot.

EARL SWANSON, Idaho State College - Plateau fish arrow.

HARRY NEWMAN, Idaho State College - Portion of first Idaho millstone.

MUSEUM EXCHANGE - Northwest Coast and California basketry, other ethnographic specimens.

LESLIE DEAN, Twin Falls, Idaho - Collection of prehistoric Idaho pottery.

A. L. LILLIBRIDGE, Idaho State College - Metal plaque formerly attached to Engine 947, UPRR.

FRANKLIN COLE, Idaho State College - Penobscot Indian bow.

BETTY RHODENBAUGH, Idaho State College - Model of Navaho loom.

H. J. SWINNEY, Idaho Historical Society - copy of document, The Nez Perce Campaign.

EARL SWANSON, Idaho State College - copper fringe tip, for buckskin garment.

ALAN L. BRYAN, Harvard University - Notes and sketches describing stone bowls in Idaho Historical Museum, Boise.

ED H. BERRETT, Pocatello - Business correspondence of Drew Standrod.

JOSEPH HEARST, Idaho State College - Copy of manuscript: Ten Years on an Indian Reservation as a Licensed Trader: Experience of W. N. Shilling.

MERRILL BEAL, Idaho State College - Carpet bag, given to Dr. Beal by John E. Gurvin, Pocatello.

JOHN E. GURVIN - Lithograph stone.

DONALD TUOHY, Idaho State College - Samples of peyote.

BORYS MALKIN, University of Minnesota - Fijian basket.

VERA McCARTY, Pocatello - Kodachrome slides of Dinosaur National Monument.

VERA McCARTY, Pocatello - Shoshone and Northwest Coast ethnographic specimens.

BEN AND IDA LYON, Pocatello - Pioneer historical items from Idaho.

STATE HIGHWAY DEPARTMENT - Traffic survey maps for Idaho.

Purchase:

Three African wood carvings.

Fijian ethnographic specimens.

MUSEUM RESEARCH LIBRARY

Gifts and Exchanges:

University of California Anthropological Records - exchange.

University of California Publications in Zoology - exchange.

University of Wyoming Publications in Science - exchange (go into main College library).

H. J. Swinney, Idaho Historical Society - Bishop Museum Handbook.

Borys Malkin, University of Minnesota - Ethnology of Polynesia and Micronesia; As sucessivas faunas de mamiferos terrestres no Continente Americano, by C. de Paulo Couto; reprint of paper by donor, Sumu Ethnozoology: Herpetological Knowledge.

H. J. Swinney, Idaho Historical Society - Natural History of Hawaii, by W. A. Bryan.

Donald R. Tuohy, Idaho State College - Bancroft's History of Central America, 3 volumes and History of Mexico, 6 volumes.

R. C. Stevenson, Idaho State College - Ethnomusicology, Vol. 2, No. 3.

Edson Fichter, Idaho State College - Recent Archeological Research in Oklahoma, 1946-1948, by Robert E. Bell.

Carnegie Institution of Washington - Three monographs in American anthropology.

Earl H. Swanson - Idaho State College - History of the Primates, by W. E. LeGros Clark.

PAPERS

IN

NORTHWEST ANTHROPOLOGY

AN ARCHAEOLOGICAL SURVEY OF SEVERAL NATURAL GAS PIPELINE LATERALS IN WASHINGTON AND IDAHO*

by Donald R. Tuohy

During the Summer of 1957, the Pacific Northwest Pipeline Corporation expanded its natural gas distribution system in Washington and Idaho. In Washington, five laterals were emplaced, two west of the Cascade Mountains and the remainder in eastern Washington. Only one lateral was constructed wholly within Idaho. These distribution systems added to existing transmission facilities in both states. In keeping with company policy, provision for the salvage of antiquities on the several laterals was made. One archaeoligist, the author, was assigned the survey and salvage responsibilities. The following is a brief report of those activities.

It should be made clear at the beginning of this report that most of the right-of-way on all of the laterals was unproductive. In reconstructing the prehistory of any region, however, it is sometimes advantageous to determine areas of least aboriginal use, as well as the favored areas of primary occupation. In a sense then, the contribution this report makes is largely negative. This can happen in pipeline archaeology where engineers, not archaeologists, determine the routes to be examined. I shall discuss this point later, but first I would like to describe the routes examined and the findings of the survey.

The Moscow Lateral: This short lateral is a trunk line originating on the Lewiston-Clarkston pipeline near Pullman, Washington, and terminating some nine miles to the east at Moscow, Idaho. Construction began early in the summer on this lateral, and it was one of the first to be put in the ground. The route chosen for the lateral traversed low rolling hills, productive wheat lands typical of the Palouse country.

At the time of the initial archaeological survey, the right-of-way was obscured by wheat and alfalfa growing in the cultivated fields. After the fields were cleared of vegetation, the entire surface of the right-of-way was re-examined. Then, after the trench for the pipe had been excavated by a trenching machine, an examination of the open trench for sub-surface features was made. These examining and checking procedures yielded negative results. In addition to the physical examinations of the right-of-way, Dr. Richard Daugherty, an archaeologist at the nearby State College of Washington, was shown a map of the pipeline route and asked if he possessed knowledge of aboriginal sites in the vicinity of the construction zone. He knew of only one site in the area, and that one was located where the present city of Pullman now stands, some two miles from the right-of-way.

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*This paper supplements an article entitled "The Old Mission of the Sacred Heart" which will appear in the Winter issue, Vol. 2, No. 2 of Idaho Yesterdays.

The Moses Lake Lateral: This trunk line was designed to bring natural gas from the Spokane lateral to a sugar beet refinery near Moses Lake, Washington. The route chosen for the lateral originated some fifteen miles south of Lind, Washington, and it extended some thirty miles to the northwest where it terminated at Moses Lake. It is wholly within the Central Plains physiographic section of the Columbia Plateau, a region featuring sandy areas of bare earth, exposed basalt outcroppings, and a sparse cover of grasses and shrubs. Recently, much of the land has been reclaimed, and in these areas alfalfa is the principal irrigated crop, although much wheat is grown in the more arid sections where irrigation is lacking.

This section of the Columbia Plateau is known to have been frequented by Early Man (Daugherty, 1956). Near Warden, Washington, the pipeline route passed within 200 yards of the Lind Coulee site, an open camp occupied by bison hunters anywhere between 6,000 and 11,000 years ago (Ibid.). With this knowledge in mind, the archaeological survey of the right-of-way was executed with utmost care. Much time was spent examining the surface of the pipeline route and adjacent lands in the vicinity of the Lind Coulee site to make certain that even the slightest trace of occupation would not be destroyed by construction. Test squares excavated on the right-of-way and examinations of several grading cuts and of the open pipeline trench demonstrated that the culture-bearing stratum of the Lind Coulee site did not exist beneath the pipeline right-of-way.

When Dr. Daugherty was advised that the pipeline route would pass close to the Lind Coulee site, he offered the temporary assistance of student excavators and the use of additional field equipment, should extensive excavations of the right-of-way become necessary. If a single artifact had been found, such an undertaking would have been mandatory. Positive indication that the pipeline route contained cultural materials was lacking, and the contemplated exploratory excavation was not carried out. The remainder of the Moses Lake right-of-way was subjected to a close surface surveillance and a continual trench check, but it too proved archaeologically sterile.

The Chewelah Lateral: The right-of-way for the Chewelah lateral traversed a forested upland between Spokane and Chewelah, Washington. Construction of this pipeline was cancelled early in the summer. Nevertheless, the route was examined for archaeological sites. The surface survey failed to locate a single site; however, it is strongly recommended that an archaeologist accompany construction crews if the lateral is to be constructed at some time in the future. This recommendation is based upon two factors. First, when the archaeological survey was carried out, the right-of-way was not clearly demarcated by the old engineering survey, and many key stations had been uprooted or destroyed. Secondly, some sites may have been concealed by thick stands of natural vegetation and introduced crops.

The Coeur d'Alene Lateral: The Coeur d'Alene lateral is a branch of the Lewiston lateral which extends some 27 miles from Spokane, Washington to Coeur d'Alene, Idaho. The construction crews started laying pipe in Washington, and it took them approximately 70 days to reach the meter station in Coeur d'Alene. The archaeological survey of the pipeline route was completed in one week. The trench examination had to await the digging of the trench, and that phase of the archaeological examination took much more time. Nothing of significance was found on this lateral.

The dearth of sites on this route was particularly disappointing because the cobble-strewn Spokane Valley supported a large Indian population during historic times. At one point, the pipeline route passed within two miles of the place where Colonel George Wright and his troops put down an uprising of the Coeur d'Alene, Spokane, and Palouse Indians in 1858 by slaying several hundred Indian ponies.[1] In addition, there are petroglyphs at Post Falls, and several Indian burials have been found near Lake Coeur d'Alene and Ross Point, both less than five miles from the pipeline route, (the burials were reported by Miller, 1954).

The Kellogg Lateral: The Kellogg lateral is an extension of the Coeur d'Alene lateral. It was designed to carry gas from Coeur d'Alene to a lead, silver, and zinc smelter near Kellogg, Idaho. The right-of-way for this transmission line was the only one which yielded a few artifacts.

Throughout most of its length, the route chosen for the Kellogg lateral traversed a mountainous area where it paralleled another pipeline which carries petroleum products to several cities in northern Idaho. The right-of-way for the PNW transmission line had to be cleared of dense stands of young pine trees and thick brush growing in burned over areas before construction could proceed. The surface of the right-of-way was examined before it was cleared of vegetation, and then it was re-examined after it was graded. The open trench also was examined. In the initial surface survey, only one segment of the route looked promising. This was a flat valley formed by the aggrading Coeur d'Alene River in the vicinity of the Old Sacred Heart Mission, near Cataldo, Idaho.

The right-of-way for the pipeline passed through mission grounds, and it was here that the search for antiquities was concentrated. Because the center line of the engineering survey was staked within thirty feet of the mission cemetery, the pipeline corporation was asked to detour the route farther away from consecrated ground. This request was granted. Six test squares were excavated to depths of 2 to 3 feet on the center line of the detour where minute differences in the botanical assemblage were detected (i.e., where camas was growing in profusion, or where the turf apparently had been disturbed). The uppermost five inches of two of the test squares yielded three artifacts (two flat, side-notched pebbles, both approximately 8 mm. thick and 60 mm. in diameter, and a fragment of a naturally rectangular cobble pestle). A half dozen large square nails also were recovered from the turf. The test squares demonstrated that there were no concentrations of occupation debris on mission property leased as right-of-way. There was, however, a thin veneer of cultural remains widely scattered in the area. For this reason, the bulldozer used in clearing the right-of-way was followed while it stripped away the turf on the construction zone between the mission and the cemetery, and a close surveillance of the bare earth was maintained.

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[1]Wright's act of slaying the ponies instilled fear in the Indians. The Indians' attitude was summarized in a later statement by Chief Stellam, who said "... that a man who could despise and destroy such treasure must indeed be a great man." (Burns, 1947:303.)

On both slopes of the hill upon which the mission stands, this procedure proved fruitful. The eastern slope of the hill yielded three artifacts, a large unshaped cobble pestle with battering wear on both ends (300 mm. in length and 65 mm. in diameter), an oval hand stone or milling stone of sandstone (105 x 75 x 35 mm.), and an elongated oval hammerstone pecked and battered at both ends (212 mm. in length, and 46 mm. in diameter). In a swampy area below the eastern slope of the hill some three hundred feet from the mission cemetery, the blade of the bulldozer bared a mandible of a horse.[2] The mandible was exposed in situ, and it was found to be in association with the remainder of the horse's skull. The cranium was inverted, and lay beneath six inches of horizontally bedded silts. A roll of birch bark was found nearby.

Items of Caucasian manufacture were numerous on the western slope of the hill. A small sample of bottle glass and crockery was collected. Oddments of metal were found also, and among the specimens collected are a horse shoe, an ox shoe, a chisel, a door lock, several square nails, and several unidentified cylindrical objects of metal, all badly rusted. These specimens are contact goods which date anywhere from the mid-nineteenth century to the present.

After it was established that the right-of-way in the vicinity of the mission contained few traces of aboriginal use or occupancy, an effort was made to find aboriginal camps or villages nearby. Two large camps were found. These sites were recorded, and surface collections of artifacts were made at each of them. Site 1 (10-Ka-1) is a badly eroded camp site. It is a low oval mound composed of sand, bits of charcoal and mammal bone, fire-cracked rocks, and occupation debris. The mound is forty feet long and thirty feet wide. The cultural deposits are probably two to four feet deep. Both ground and chipped stone artifacts are represented in the surface collection. Historic or contact goods were not present. The ground stone tools include a large fragment of a celt made of serpentine (135 x 50 x 15 mm.), three abrading stones of silt-stone, one of which has been resharpened by pecking (none exceeds 70 mm. in any dimension), and a quartzite hammer stone (a small fragment). The chipped stone tools are represented by three flake scrapers, two side scrapers of chalcedony, one end scraper of opal, and two well made flake knives of micaceous schist. None exceeds 40 mm. in any dimension. The balance of the specimens is made up of some forty odd waste flakes of quartz, quartzite, chalcedony, jasper, opal, and unidentified metamorphic rocks.

Site 2 (10-Ka-2) is an extensive camp also composed of concentrations of fire-cracked rocks, fragments of charcoal and mammal bone, and occupation debris. The debris is scattered over an area roughly 200 yards long, and 50 to 100 feet wide. The deposits may be as much as four feet deep. Contact or historic artifacts were numerous, and among those collected are bits of crockery, china ware, and glass, and miscellaneous metal objects. Several scrapers of aboriginal design were made of bottle glass. Broken edges of the glass were carefully re-touched by pressure flaking techniques to produce jagged scraping edges. Artifacts of native manufacture include three quartz-

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[2] The identification was made by Mr. David Fortsch of the Idaho State College Museum.

ite hammer stones, a maul, and a small milling stone. Wear on the hammer stones is restricted to one or both ends of the specimens. They vary in length from 100 to 155 mm., and in diameter from 20 to 43 mm. The maul is partially pecked to shape on all edges and both ends. It is 165 mm. long, 70 mm. wide, and 45 mm. thick. The small oval hand stone shows pecking wear on one end, and grinding wear on one face. This specimen is 72 mm. long, 34 mm. wide, and 34 mm. thick.

Chipped stone artifacts recovered from the site are fourteen in number. Seven are knives with rounded ends; six of these are made of micaceous schist, and the seventh quartzite (size range, 48 x 42 x 3 mm. to 90 x 150 x 12 mm.). Two small projectile points (triangular forms with stems, corner notches, and excurvate bases), a small drill with tapering sides, two small flake side scrapers, and two chipped pebbles make up the balance of the artifact types. The points are made of chalcedony, and they measure 25 x 15 x 3 mm. and 20 x 17 x 4 mm. respectively. The drill lacks a base, and measures 42 x 15 x 8 mm. The scrapers measure 26 x 30 x 5 mm. and 62 x 32 x 10 mm. respectively. The chipped pebbles have flattened oval cross sections, and a few rough flakes have been removed from the edges of these specimens. The largest is 45 x 47 x 12 mm. Chalcedony, quartz, quartzite, opal, sandstone, and other unidentified chips make up the remainder of the surface collection from site 2.

It is believed that there are many other sites in the region. Many may be covered by sandy silts which were deposited by dredgers working along the Coeur d'Alene River. Mr. Al Hunt, who works on a dredge, and lives two miles north of Cataldo on the east bank of the Coeur d'Alene River, has a small collection of artifacts he gathered from his own yard and from a camp site in the vicinity of the mission. Specimens from his yard include a tip of a triangular blade of obsidian, a small pentagonal point of opal, a small side notched triangular point, and three small point tips of chalcedony. Those artifacts he found at a site near the mission are two in number: one is a blade end of a small serpentine celt, and the other is a maul with a rounded handle, and a flanged working end. He also had in his possession a number of small triangular points, a few rolled copper beads or bangles, and a rectangular copper ornament he had recovered from the surface of a camp site on the shores of Medicine Lake.

The Olympia Lateral: This lateral extends from the main transmission line near Vail, to a meter station in East Olympia, Washington, a distance of approximately eight miles. Another proposed lateral, the McIntosh lateral, may be built at some time in the future. It will extend transmission facilities some fourteen miles to the west of East Olympia. The surface of both routes was examined, and nothing of interest was found.

The Grotto Lateral: The right-of-way for the Grotto lateral followed a meandering course from its junction with the main line near Snohomish to a cement plant near Skykomish, Washington, a distance of roughly 32 miles. This route, which paralleled U. S. Highway 2 through Stevens Pass, was inspected and found sterile of archaeological remains.

Summary and Conclusion: During the summer of 1957, seven pipeline laterals were examined for antiquities in Washington and Idaho. Six of them lacked

archaeological remains. The right-of-way of the seventh yielded a few artifacts. These were found in northern Idaho near a Jesuit mission which was established in 1846. Two other sites were located nearby. A small surface collection of artifacts was made at each of them. The artifacts from all three sites are similar to those found at sites in northeastern Washington, an area also inhabited by Interior-Salish speaking tribes during protohistoric times. Future excavation of the two sites found off of the right-of-way may demonstrate prehistoric cultural connections between the two areas (Collier, Hudson, and Ford, 1942).

The lack of archaeological sites on the other right-of-ways may be attributed for the most part to unfavorable terrain. These areas were used infrequently by native groups. Unlike pipeline salvage archaeology in the Southwest (Wendorf and others, 1956), very few sites have been found on highway (Stallard, 1958) and pipeline projects in the Pacific Northwest. Those few that have been found on Pacific Northwest Natural Gas pipelines in Idaho, Oregon, and Washington, however, have yielded data essential to our understanding of several phases of the prehistory of these states (Warren, Bryan, and Tuohy, n.d., Bryan and Tuohy, n.d., Tuohy and Bryan, 1958, Bryan, 1958, Tuohy, 1956, and Warren, n.d.). Plans are being made for the publication of these manuscripts, and the data should be available soon.

Idaho State College Museum
Pocatello, Idaho

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A RE-EVALUATION OF SOUTHWESTERN WASHINGTON ARCHAEOLOGY

by Claude N. Warren

In a recent article, Alan Bryan (1957) stated that the "archaeological collections in Southwestern Washington contain a complex of artifacts which is closely related to the Plateau culture." Even though the complex Bryan describes includes only "circular semi-subterranean house depressions, cobble choppers and small projectile points," we are told that "although some coastal traits were observed along the Columbia River, such as rectangular house depressions, the preponderance of Plateau-like traits and the paucity of typical coastal traits such as ground stone celts and spool shaped hand mauls..." (emphasis mine) has led Bryan to conclude that this "Plateau-like tradition" is of long-standing duration (p. 9).

Bryan also cites Caldwell's (1956) similar conclusion as supporting evidence. Bryan says, concerning Caldwell's statement on Southwestern Washington:

> "Emory Strong, an amateur archaeologist,...submitted a survey report on Clark County to the University of Washington at the suggestion of Warren Caldwell. On the basis of this and the report of a subsequent survey in the same area with test excavations by Claude Warren and Frances Eng, Caldwell (1956) came to the conclusion that this Plateau-like tradition was of long-standing duration." (p. 9)

This statement is in error. A review of Caldwell's dissertation (1956) will reveal that his information was taken largely from three site reports printed by the Oregon Archaeological Society in Screenings. He does not refer directly or indirectly to either Warren and Eng's survey or to Emory Strong's survey.

It should also be noted that at the time Caldwell made his statement on Southwestern Washington, he had estimated a terminal date of circa 2000 years B.P. for Horizon I of Wakemap Mound. However, to date the earliest C-14 dates from Wakemap are 1080 ± 200 and 1050 ± 200 (Crane and Griffin, 1958). Even though there appears to be an inversion in the series of five dates, it is apparent that Wakemap cannot serve as a basis for suggesting a "tradition of long-standing duration."

Bryan also states that he "recently had an opportunity to work extensively in Southwestern Washington as an archaeologist with the Pacific Northwest Gas Pipeline Corporation. The pipeline, however, extended through the Columbia Gorge and then turned north along the western flank of the Cascades (Bryan 1957:9). This area is the only area in Southwestern Washington to be touched by archaeological excavations, except for the recent, limited digging on the coast. The western foothills of the Cascades and the area extending west to Longview and Kelso, Washington, have been sur-

veyed by Hudziak and Smith (1948), by Emory Strong (n.d.), and by Warren and Eng (1955a, b), and most recently by archaeologists (see Tuohy and Bryan) working for the Pacific Northwest Gas Pipeline Company. This leaves the large central portion and most of the coast of Southwestern Washington completely unknown archaeologically.

The author feels that not only is the "long-standing duration" of this "Plateau-like complex" questionable, but that the very presence of such a complex throughout the whole of Southwestern Washington is itself in question. It is felt that neither Bryan nor Caldwell has advanced sufficient evidence in his report to substantiate these claims. In the following paper, the author presents the data gathered in Southwestern Washington by Warren and Eng in their survey of 1955, as well as some further data which are considered pertinent in answering these questions. It appears to the author that Bryan has oversimplified the problems of Southwestern Washington archaeology and that a re-examination of the data presented below will point up a number of problems inherent in the complexity of the material found along the banks of the Columbia River in Southwestern Washington.

The Western Foothills

The low, rolling land along the north bank of the Columbia near Vancouver becomes progressively more rugged toward the east, where the Columbia flows through a deep gorge in the Cascade Mountains. All of the sites discussed below lie in the western foothills of the Cascades except Sk-1, which is located in the heart of the mountains. Many of these sites are now surrounded by heavily populated areas and have been destroyed or partially covered by homes. However, a small sample of artifacts from this area has been collected, and two sites were tested by Warren and Eng (1955a).

Six sites are reported from this area. Four are middens which have been either destroyed by amateurs or by construction. Some now have homes located on them. Two are relatively undisturbed villages with well-defined house pits.

Site Sk-1. This site is located just south of the village of Skamania, on the north bank of the Columbia, in the heart of the Cascade Mountains. The area is heavily wooded and thick underbrush made surveying extremely difficult. There were, however, 17 house pits scattered over an area about one mile long and 100 yards wide. A more intensive search of the area would undoubtedly reveal more house pits hidden in the underbrush.

House pits were both oval and circular, varying between ca. 20 to ca. 50 feet in their longest dimensions. No discernible pattern could be seen in the location of the house pits. Warren and Eng (1955a) tested one of the house pits and their findings are summarized below.

Two test pits were placed in one house depression, one near the center and the other at the outer lip. The center trench revealed a fine, yellow-brown soil flecked with charcoal, throughout the deposit. However, a compact layer of the same material 2 to 4 inches thick was located 2 feet

below the surface. Though this may have been a floor, two artifacts were found below it. The bottom of the fill was not reached in this test square. In the outer pit, the fill extended unbroken from the surface of the ground to a rocky, dark gray clay 3 feet 4 inches below the surface.

The only feature recorded was a fire pit exposed in the center pit 2 to 5 inches below the surface. It was oval in outline, 3 feet 2 inches wide and ca. 5 feet long and 6 inches thick. It appears to have been prepared by simply scooping out a hollow in the ground.

Found in association with the fire pit were two retouched flakes, a broken bottle, several pieces of a tin can containing a wax-like substance. A small, pointed wooden object was found at a corresponding level in the outer pit.

All other artifacts were clustered around the compact level in the center pit and the bottom of the fill in the outer pit. The uppermost artifact in the center pit was a strip of metal found 18 inches below the surface. Other artifacts found above the compact stratum include two retouched flakes, two cores (one retouched as a scraper), a cobble chopper and a small paint pot. The compact stratum yielded a projectile point and a flake scraper. The projectile point has a straight stem, small shoulder barbs, and is 2 inches long. Two flake scrapers were recovered from below the compact stratum.

In the outer pit, clustered between 1 foot 9 inches and 2 feet 5 inches, were the following artifacts: a rectangular abrasive stone made from a porous volcanic material, a projectile point 2 inches long with weak rounded shoulders and a broken base, four flake scrapers, a cobble chopper, and a banded sinker with a single band and a "knot indentation".

In addition to the artifacts recovered by Warren and Eng, the owners of the property have collected literally thousands of artifacts including many pestles, mortars and banded sinkers, both plain and with elaborate designs, perforated sinkers, several pipes with animals carved on them, various types of choppers, projectile points, and scrapers.

Also located on the site is a large boulder which contains several petroglyphs. These include small cups, concentric circles, an elaborate stylized animal, and a "Spedis owl".

Site C1-8. This site is located several hundred yards from the Columbia on the bank of the Washougal River, in the town of Camas, Washington. The site is comprised of eleven, well-defined house pits which are scattered along the bank for approximately 275 feet and set back from the river approximately 120 feet. The site is located on what appears to be a wide river bench, and is covered with lush grass, sparse brush, and a rather dense oak grove.

The house pits are circular and scattered about in no discernible pattern. They vary in diameter from approximately 15 feet to 45 feet, with nine pits between 30 and 40 feet in diameter. The surface depths of the depressions vary somewhat, but average about 2 feet.

Two test pits were placed in one of these house pits by Warren and Eng (1955a). These pits disclosed a very black, rocky midden deposit over 5 feet deep in the center of the house pit and 2 feet 7 inches at the outer edge of the depression. There was no physical stratigraphy within the midden deposit. The midden rested on a stratum of yellow clay and river sand which yielded no cultural material.

The floor of the house pit was located 4 feet below the surface and an aboriginal excavation was encountered which extended more than a foot below the level of the floor. However, this pit was only partially exposed and dimensions can be only estimated at 10 feet in diameter and slightly more than 1 foot deep (Warren and Eng, 1955a:16).

Artifacts were distributed evenly throughout the midden and no cultural stratigraphy could be determined from the sample. The only European artifact recovered was a rim-fired cartridge found in direct association with a scraper at 1.5 feet below the surface.

Thirty-four chipped stone artifacts made from crypto-crystalline material were recovered. These include four projectile points, 25 irregular flake scrapers, four lamellar flakes worked on one or both edges, a tailed stub-nosed scraper, a chisel-like graver, and a piece of petrified wood exhibiting battering on one end. Other artifacts include three hammerstones, six choppers and one polished stone.

Two projectile points are stemmed, one exhibiting long barbs while the second has very small barbs. Both have straight rectangular stems. They are 1-1/8 and 1-1/2 inches long. The third point is leaf-shaped and is represented only by a basal fragment. The fourth is represented by only a fragmentary blade.

The snub-nosed scraper is 1 inch long, with a very narrow and curved tail, and is unifacially pressure-flaked around the entire periphery. The graver is oblong with a rectangular neck extending from one end. A small tang projects from both corners of the neck. It is unifacially pressure-flaked except at the rounded end.

Choppers fall into two categories. Five specimens are simple river cobbles or pebbles, bifacially or unifacially percussion-flaked to achieve a crude cutting edge. The remaining specimen is roughly V-shaped in outline, with a thin, irregular cross-section. The broad end has been flaked and battered while the narrow end exhibits only a small amount of pecking.

Caldwell (1956), reporting from Emory Strong's collection from this site, lists 21 points, 33 scrapers, and 1 girdled sinker for Cl-8. All points are medium sized and include triangular barbed and stemmed, shouldered, and leaf-shaped types. Scrapers include thumb and end scrapers, lamellar blades, and irregular flake scrapers.

Site Cl-10. This site is located at the mouth of Lacamas Creek, on a low, level bench, covered with small shrubs and lush grass. This site has been completely destroyed by construction of highway 830 and by amateurs. A small collection from the site was recovered by a boy living nearby, and

Caldwell (1956) reports the additional findings of Mr. Selby. These collections include: girdled sinkers; a mortar; a pestle and hand maul; cobble choppers; a stone whistle (?); a small paint pot; chipped stone scrapers; small-stemmed, leaf-shaped, and side-notched points; and the larger "mule ear" and triangular blades; a spall celt or digging tool; and a problematical carving.

Site Cl-7. This site is located at the mouth of a small stream on the north bank of the Columbia, approximately one mile east of Fisher's Landing. Several homes are now located on the site area, but one of the owners has an excellent collection from the site. It includes many elaborately carved sinkers with as many as three bands, pestles with carved tops, one of which is an animal effigy, grooved mauls, various sizes of stone bowls and mortars which are both round and rectangular in shape and occasionally have carved designs on the rim or body, two carved stone animal effigies, many chipped stone projectile points and scrapers (Warren and Eng, 1955a).

Site Cl-6. This site is located on the bank of the Columbia at Fisher's Landing. Two homes are now located on this site. However, while making excavation for the buildings and in general yard work, a number of items have been collected by the owners. Warren and Eng were allowed to place a small test pit on the edge of the property and it yielded a small number of artifacts.

This site is located on a high bank and is covered with large boulders, several of which exhibit aboriginal sculpturing. These rock carvings include the locally well-known "turtle", which is a single bedrock mortar around which has been carved a stylized animal exhibiting eyes, four legs and paws, and ribs. Other large boulders nearby have what appears to be stylized animals, small cups, and irregular lines ground and pecked into their surfaces.

Artifacts recovered by the owners include banded sinkers with and without "knot indentations" and with various designs pecked into the surface, perforated sinkers, several pestles, including one with a banded top, and several stemmed and triangular projectile points. The single test pit excavated by Warren and Eng (1955a) yielded a single ground stone celt of slate-like material, a broken pestle, and a pecked stone.

E. Strong's Site 10 (E. Strong, n.d.) is located five miles east of Vancouver, on a bank of the Columbia, near the community of Image, Washington. This site is on a level bench just above the high water mark, and a black, greasy midden is visible in the cut bank for approximately 4 feet of thickness. The midden extends for about 970 feet along the river bank, and measures approximately 120 feet wide. At the present time, it is owned by a nearby housing development and permission to test the site could not be obtained. The upriver edge of the site is subject to erosion during high water and it is from this area that all known artifacts have been recovered. These include banded sinkers, usually finished over the entire surface and having "knot indentations", perforated sinkers, and a single notched stone which might represent another type of sinker. A jadeite celt blade 3 inches wide, 6 inches long and 1/2 inch thick, and a single, undescribed projectile point are also reported (E. Strong, n.d.).

The foregoing survey of the foothills region reveals that villages are characterized by circular and oval, semi-subterranean house pits scattered about the sites in no discernible pattern, by an abundance of chipped stone, including small and large points, scrapers and gravers, as well as by cobble choppers, perforated sinkers, plain and elaborately carved pestles, mauls, mortars and grooved sinkers, and by stone sculpture in the round, as well as elaborate petroglyphs. Most of these traits are found throughout the Plateau. However, most are common also in The Dalles-Deschutes area and all are present there.

Stone sculpture in The Dalles area has been placed by Cressman et al. (1958) in the "Full Protohistoric" and probably the later part of that period. Cressman et al. date the "Full Protohistoric" period as beginning at circa 2500 to 3000 years ago and ending with European contact. Our evidence of European material in the upper levels of the sites containing stone sculpture corroborates this dating.

In summary, the foothill area appears to have been inhabited by people of Plateau culture in late proto-historic and contact times. In the western portion of the foothills, ground stone celts occur and the chipped stone material appears to become less plentiful, thus indicating a possible coastal influence.

Lake River - Sauvies Island Villages

A number of sites located on Sauvies Island and on the banks of Lake River vary somewhat from the foothill sites to the east and suggest a contrast which cannot readily be explained by Bryan's (1957) hypothesis.

Lake River is a small, slough-like river which flows from Vancouver Lake into the Columbia River, just north of Ridgefield. Both Vancouver Lake and Lake River are located in the low alluvial bottom land bordering the Columbia, and neither is more than one and one-half miles from the Columbia at any point. During low water, Lake River flows north out of Vancouver Lake for approximately 11 miles along the eastern edge of the alluvial plain before entering the Columbia. During high water, however, Lake River backs up, raising the water level of Vancouver Lake and converting the low plain into a swampy marsh.

The rolling alluvial plain is approximately one-half to three miles wide in this area, and is covered with lush grass, shrubs and clusters of trees, and dotted with numerous small lakes. Immediately east of Lake River, the land rises abruptly to a wide rolling plain which extends to the foothills of the Cascades.

Along the shore of Lake River is a number of village sites which are very similar in surface indications and appear to represent a homogeneous group when compared to sites located in the foothills east of Vancouver.

Eleven sites have been reported along Lake River and on the surrounding alluvial plain (Warren and Eng, 1955a, b; E. Strong, n.d.; Hudziak and

Smith, 1948). Sites Cl-2, Cl-3, Cl-4 and E. Strong's #8 are partially destroyed, so that house pits could not be located if present. The remaining two are small camp sites lacking house pits and containing only small amounts of midden (E. Strong, #6 and #7).

Those sites with well-marked house pits are of special interest because they form village patterns quite distinct from those of the Plateau. Furthermore, archaeological data from the other sites are almost entirely lacking.

E. Strong's Site 2. This site is located on the east bank of Lake River, about two and one-half miles north of the Felida Landing. Strong reports that the midden is "about 15 inches deep" and covered with "about 12 inches" of river silt. A single depression 300 feet long and 25 feet wide is the only surface feature reported by Strong. He feels that it may be a single house pit, or a series of several pits in a row. No excavations were made and no artifacts are reported from this site.

Site Cl-11. This site is located on the east bank of Lake River, about one-half mile north of the Felida Landing. The midden is composed of black organic material and shell, but the depth of the deposit was not determined. Two or possibly three rectangular house pits are visible on the surface. One depression is 125 feet long, with a high outer lip and low "walls" running across the width of the floor. One of the "walls" is fairly high and may represent an area between two separate houses. The other "walls" are considerably lower than the outer lip and appear to represent separate units within the larger house. The second depression is about 40 feet long and both are about 25 feet wide. They are placed in a single line parallel to the river bank.

In addition to the rectangular house pits, there are two circular pits approximately 8 to 12 feet across and 3 to 4 feet deep. One is located at the edge of the river and the second is placed a short distance from the rectangular house pits, on the "inland side." Though these may be termed circular, semi-subterranean house pits, their size and location suggest a specialized use such as sweat lodges or menstrual huts.

Material recovered from this site includes a pot sherd of fired pottery with a "pine tree" design (Osborne, 1957), a copper bangle, some hand-moulded musket balls, and a "carved whalebone" (E. Strong).

Site Cl-14. This site is located on the east bank of Lake River, at the southern tip of Green Lake. There were four house pits located in a single line roughly parallel to the river (Warren and Eng, 1955b, p. 5), measuring 40, 85, 90 and 120 feet in length and approximately 25 feet wide, respectively (E. Strong, Site #3). This site has now been destroyed by the Oregon Archaeological Society. However, while the Society was digging the site, Warren and Eng visited them and tested one of the house pits (1955b). The following information is presented as a revision of their report.

A test trench 12 feet long and 4 feet wide was excavated across the side lip of the 40 foot house pit which exposed both features and interesting stratigraphy, and yielded a small sample of artifacts. The original house floor was excavated to a depth of 4 feet below the present surface.

However, it appears that the ground level at the time of the aboriginal excavation was one to one and one-half feet below the present surface.

The following stratigraphy was exposed in the test trench:

Stratum I. Fine river silts and turf, probably the result of recent flooding. Contained no artifacts. 1 to 5 inches thick. (Although the owner had stated that the area had been plowed, the stratigraphy showed no disturbance except by the aboriginal inhabitants. Since the house pits are located on the bank of the river, at the edge of a field, it is conceivable that the plowing was limited to the nearby field.)

Stratum IIA. Immediately below Stratum I. Black loam inside the house pit. The demarcation at the wall of the house pit is clear and extends to the under surface of Stratum I. The black fill inside the house contains a large quantity of organic material and varies in thickness from one to one and one-half feet. Stratum IIA represents the last occupation of the house pit and is stratigraphically distinct and possibly culturally different from the occupation of Stratum III.

Stratum IIB. Immediately below Stratum I on the outside of the house pit. Yellow-brown in color and containing less organic material than Stratum IIA. Apparently represents deposits contemporary with both Stratum IIA and III. One foot thick.

Stratum III. Immediately below Stratum IIA (inside house pit). Gray-brown in color and extending to the bottom of the house pit. 2 feet 4 inches to 2 feet 10 inches thick.

Stratum IV. Sterile subsoil of yellow clay underlying both Strata IIB and III.

Features. Four features were exposed in Stratum III. They include three circular pits, located in the floor of the house, and one lens of shell in the upper portion of the stratum. The circular pits were ca. 8 inches deep. Two were 30 inches in diameter and one was 23 inches in diameter. All contained fill similar to the deposit of Stratum III, but with more organic material.

The shell lens was located approximately 2 inches below the upper surface of Stratum III. It was only partially exposed in the corner of the test trench, but here it was 3 to 5 inches thick and extended 15 inches onto the west wall and 8 inches on the south wall.

Six features were present in Stratum IIA, including five post holes and an ash lens or "hearth". Six feet from the wall of the house, on the south wall of the trench, a post hole 2-1/2 inches in diameter extended 1 foot 4 inches into Stratum III.

Seven inches north of the first post hole was another post hole, 4 inches in diameter, which extended approximately one foot into Stratum III, the bottom of the hole being poorly defined.

Immediately north of the second post hole and partially covering it was an ash lens approximately 2 feet in length and with a maximum thickness of 9 inches. It appears to have been a fire pit formed by simply scooping out a shallow basin in Stratum III.

Immediately inside the original house pit excavation was located a row of three post holes. All were 3 inches in diameter, unevenly spaced and extending 3 inches, 8 inches, and 12 inches into Strata IIB and IV.

A single post hole was located in Stratum IIB immediately outside the house wall. This post hole was also 3 inches in diameter, began about 5 inches below the surface of Stratum IIB, and extended one foot into Strata IIB and IV.

Artifacts. Twenty-six chipped stone artifacts were recovered, nineteen of which were projectile points. Eleven points were stemmed with straight or slightly barbed shoulders. Stems were tapering, rectangular and slightly expanding. Five projectile points are triangular, with concave bases, and two are triangular with straight bases and side notches. One remaining point was later reported by E. Strong, but not described (Warren and Eng, 1955b, p. 2). All points are small, with only one measuring over one inch long. All types represented here are recognizable as types found in the late period of the Plateau.

Five scrapers and a small fragment of a knife or projectile point make up the remainder of the chipped stone artifacts.

Other stone implements include two small oblong hammerstones, battered on one end, a rectangular abrasive stone, a perforated sinker of porous basalt with a bi-conical hole located near one end.

Bone and antler artifacts include one bone and three antler wedges, and two fragments of bone needles or pins, rectangular in cross-section.

Two pieces of antler detritus were also recovered. One exhibited numerous hacking or cutting marks on one surface. The second was the base of an antler which had been grooved around its diameter and then broken off at the groove.

Other material recovered includes mammal bones (largely elk and deer), fish remains, mussel shells, several pieces of unmodified wood, and quantities of chipping detritus.

The most significant aspect of the test pit was the stratigraphic occurrence of the chipped stone artifacts inside the house pit. Stratum III contained only one projectile point and four scrapers, while Stratum IIA yielded seven projectile points and two scrapers. The difference in number is more striking when it is realized that Stratum IIA represents about one-half the volume of Stratum III. The difference in the amount of chipping detritus in the two strata also illustrates this change. The bottom foot of Stratum IIA yielded 44 flakes of cryptocrystalline material, while the upper foot of Stratum III yielded only 6 flakes of the same material, one of which was obsidian.

Other artifacts from inside the house include the wedges of bone and antler and the perforated sinker from Stratum III, and the two small hammerstones from Stratum IIA.

Stratum IIB, outside the house, does not illustrate the increase in chipped stone material. However, this can be expected. Stratum IIB represents midden deposited during the time that both Stratum III and Stratum IIA were laid down, and there has undoubtedly been some mixing of the material.

The antler detritus, bone pins or needles, eight projectile points, two scrapers and abrasive stone were all recorded from the upper eight inches of the stratum, while only three projectile points were recorded from below this level. Only six flakes of cryptocrystalline material were recovered from Stratum IIB and were relatively equally scattered throughout the deposit.

In addition to the material reported above, members of the Oregon Archaeological Society reported finding at the site "scrapers, bone work, needles, a broken pestle, a broken bowl, arrow points, 2 perforated sinkers, a carved stone face, animal tooth with several holes." (Warren and Eng, 1955b, Survey Site Form C1-14) and E. Strong reports a single trade bead from the surface (n.d., Site #3).

Though information is extremely limited from the Lake River area, it appears that the village pattern during the contact and proto-historic periods was distinct from that of the Plateau. House pits were rectangular, usually at least twice as long as they were wide and often approaching 100 feet or more in length. They were constructed in a single row parallel to the river and sometimes small, circular pits were located nearby, probably representing huts for specialized purposes. Whether or not these rectangular house pits represent the coastal plank houses is unknown. However, such houses were reported by Lewis and Clark for this area in historic times (Coues, 1893).

A rather long list of traits could be made for the Lake River region, but without any stratigraphic information such a list is useless in determining whether or not such traits represent a long-standing tradition in the area. The single test trench by Warren and Eng represents the only stratigraphically-controlled excavation in this type of village. Two components appear to be represented in this test trench. The latter component can be tentatively dated as late proto-historic by the presence of a single trade bead and by the similarity of the village pattern with nearby villages which contain trade goods. The most characteristic trait in the late component is the sudden increase in stone chipping, as indicated by the increase in chipping detritus and chipped stone tools. The earlier component cannot be distinguished from the later except by the paucity of stone chipping, although it should be noted that all wedges came from this level.

A single test trench is hardly conclusive evidence for the differentiation of these two components; however, this limited evidence does suggest such a differentiation.

Additional information concerning this area of the Columbia Valley has been presented by Strong and Galbraith (1955) and E. Strong (1955) in two site reports, for Sites Mu-11 and Co-7, both on Sauvies Island.

Site Mu-11. "Originally a narrow strip of high ground between the Willamette Channel and a small lake about three hundred yards distant. On the channel side there was an abrupt bank, which sloped away from the Channel to the lake. The archaeological deposit on the channel side was under 12 to 14 feet of clay and silt, but test holes showed that the deposit appeared again about 150 feet back of the bank, on the surface, where it was six feet deep.

"In some prehistoric time this camp had subsided until it was below normal water level. What caused the subsidence is unknown.... Anyway, being under water, the perishable wood and fiber relics have been preserved...." (p. 2)

"Storage baskets" were found, made "by excavating the clay...and lining it with hemlock branches...." These were apparently used as storage baskets for acorns, as "one of the baskets still contained some." (p. 2) Other items included stakes with roughly chopped and burned ends, a cedar bark skirt with "fibers about 16 inches long twisted and knotted into a belt of the same material," wooden wedges made of hemlock and bound with willow withes, a mat creaser with a handle carved in the form of a stylized animal with ribs, cedar bark rope, willow splints and bark used for tying, wooden bows and arrows with and without stone points, salmon skewers of wood, a paddle with a tee handle, an "open weave" cedar basket still filled with acorns, a "twined cooking basket", cedar spoons and bailers, bone needles with and without eyes and a bone carving of a human face. (p. 2)

A paucity or absence of banded sinkers, pestles, mauls and other heavy stone objects was noted by Strong and Galbraith, as was the absence of trade goods (pp. 2-3). The presence of chipped stone may be inferred from the report of arrows with points. No other mention is made of chipped stone and it is presumably rare.

Site Co-7 is located a few miles north of Mu-11 on Sauvies Island, on the east bank of the Willamette Channel. Two rectangular house pits, both approximately 50 feet long and 20 feet wide, are located on the site and are placed end to end, parallel to the channel (E. Strong, p. 4).

A number of pits (26 in site map) averaging 30 inches in diameter and 42 inches deep (two were over 7 feet deep) were exposed on the island side of the house pits. One contained a quantity of carbonized wapato tubers, but no other indication of their possible use was noted. It was from these pits that the majority of artifacts came. Five shell heaps were also found in this area.

The artifacts include the following list; however, fragments and problematical specimens were not counted.

Stone artifacts: 5 mortars, 3 paint pots, 3 mauls, 10 pestles, 6 pipes (fragments), 3 adze blades, 6 digging tools, 93 perforated sinkers,

56 banded sinkers (none of the illustrations included elaborately carved specimens of this type), 1 ornament.

Chipped stone: 47 projectile points, 12 scrapers, 8 knives, 3 drills.

Bone: 46 horn wedges (probably elk antler), 11 bone wedges, 24 needles, 2 needles with eyes, 5 digging stick handles, 2 barbed harpoon points, 6 gaming bones, 3 knife handles, 1 net gauge, 7 ornaments.

European artifacts: 4 copper bangles, 7 copper beads, 18 glass beads, 7 chinaware fragments.

Two of the mortars were plain, and one small specimen had serrated edges. Mauls were finely worked and polished, nipple-topped type being illustrated (p. 4, Fig. 7). One broken maul, not counted, exhibited a carved top representing "the head of an eagle or some other bird," and a bone knife handle was also carved (p. 4).

Pestles were short, 6 to 8 inches long, and made mostly on river cobbles requiring little shaping. Projectile points were not described but six were made from obsidian. All contact material was found in the top foot and had been mixed by plowing.

Whether or not this site was stratified and the artifact inventory represents more than one occupation is unknown. It is interesting, however, to note that the fishing equipment is more plentiful than the hunting and gathering equipment, that barbed harpoons and adzes are present, and that wedges of bone and antler are plentiful. Furthermore, chipped stone material makes up a small percentage of the artifact inventory (fourteen per cent) in comparison with Plateau sites.

Because of the manner in which the material reported by the Oregon Archaeological Society was recovered and presented, it cannot be considered conclusive evidence. With this major reservation, it may be said that the two sites, Mu-11 and Co-7, appear to represent two components similar to those suggested by the test trench in site Cl-14 on Lake River. The later component, represented by Co-7, contains bone needles, stone chipping, including some implements of obsidian, rectangular house pits, and trade goods, all of which occur in some degree in the late component of Cl-14. Traits occurring in the earlier component at Cl-14 and at Co-7 include bone and antler wedges, perforated sinkers. It should be noted, however, that worked antler and bone were recovered from the late component of Cl-14 and suggest the possibility of antler wedges occurring in the late as well as early component of that site.

Other artifacts recovered from both Co-7 and Cl-14, but for which stratigraphic information is lacking, include stone carvings, mortars, and pestles.

The distinguishing feature of Mu-11 is the lack of heavy stone artifacts and the apparent paucity of chipped stone material. The perishable material cannot be considered diagnostic because of the infrequency of its preservation in other sites. It is interesting to note, however, the presence

of wooden wedges, bone carving, salmon skewers and the paddle, all of which indicate some cultural continuity with the later components.

Though Mu-11 and the early component of Cl-14 do not define a distinctive phase and may in fact be separated by a considerable length of time, they do appear to be distinct from the later components of the proto-historic-contact culture, in their paucity of chipped stone material and possibly of stone carving and heavy stone tools.

Summary and Speculations

It is clear from the information presented above that a "Plateau-like complex" is indeed present in the western foothills along the Columbia. However, it is equally clear that this interior influence becomes less pronounced in the Sauvies Island and Lake River sites. Bryan believes there is a paucity of typical coastal traits; however, as noted above, ground stone celts and "adze blades" and various types of hand mauls occur, and antler and bone wedges are abundant. These heavy-duty woodworking tools do not logically seem to have their origin in the treeless Plateau of Eastern Washington. Concerning this point, Osborne and others (1956) state:

> "Antler wedges are present in the Okanogan...area only in small numbers. Elsewhere in the Plateau they are always present, but never numerous.... Stone hammers or mauls may possibly have a greater depth than do large adzes of homogeneous material; wood-working may be of secondary use. Ethnographic evidence indicates an extensive and perhaps earlier use of food pounders. Large adze blades are also restricted in number and noted only from protohistoric or historic graves. The distribution suggests a coastal or exotic origin." (P. 121)

Though the spool-shaped hand maul has not yet been reported from Southwestern Washington, the nipple-top type has, a type which is reported from the mouth of the Fraser River as well as from the Plateau (Osborne, 1957b, 168). Additional coastal traits include barbed harpoons, "carved whale bone", cedar bark skirt, and long rectangular house depressions oriented in a single line, parallel to the river.

The Plateau traits such as abundant stone chipping, cobble choppers and circular semi-subterranean house pits, are reported as a complex only in the western foothills. While stone chipping does occur in the Sauvies Island-Lake River area, it makes up a small percentage of the artifact assemblage and appears to be a late overlay. Not only the stratigraphic occurrence of the chipped stone but also the presence of obsidian in contact sites, suggests a late interior influence.

A complex of traits indicating the importance of a fishing economy, including such items as the various types of sinkers, and net gauges, appears to make up an equally important part of the artifact assemblages in

The Dalles-Deschutes region and in Southwestern Washington. However, further excavation in Southwestern Washington will give a better indication of their importance in that area and may also provide some indication of their origin and diffusion.

It should be stressed that ethnographic information points up the influence of the coastal peoples on The Dalles-Deschutes area and indicates a probable migration to that area in prehistoric times. The Dalles-Deschutes region has further been influenced by the Great Basin (Cressman et al., 1958). These two influences have indeed made questionable the interpretation of the late period of The Dalles area as Plateau in culture (Crabtree, 1956:117-18). Much influence between Southwestern Washington and The Dalles area is thus suggested and therefore it must be noted that although certain traits are found in The Dalles area, they do not necessarily have a Plateau origin. They may, in fact, have diffused from Southwestern Washington. Such is the case with much of the fishing gear recovered from The Dalles but which is either lacking or rare in the Plateau generally. Only further archaeology in the lower reaches of the Columbia can reveal the answers to these questions.

The origin of stone carving in The Dalles-Deschutes area has been and still is a controversial subject. Drucker (1943) and Cressman et al. (1958) have suggested a Basin origin. However, Osborne and others (1956:120) feel that unless a stylistic analysis can be furnished, the propriety of drawing the Basin carvings into the controversy must be rejected. Butler (1957) has suggested a Plateau-Basin development with a later influence from the Coast, after which the art style achieved its apogee circa A. D. 1400 to 1800. Though this question is as yet unsettled, the author believes that Butler has presented the most reasonable interpretation.

Wingert (1952) has defined, in his study of the stone sculpture of the Pacific Northwest, two major groups based on stylistic differences: the Columbia Valley and the Fraser River-Puget Sound styles. In both areas, local style variations can be recognized and similarities can also be detected between the two groups. The center of the southern area appears to be The Dalles-Deschutes region. In writing about a number of small stone sculptures from Miller's Island, Wingert states:

> "These are almost completely abstract in design. Two marked protuberances may indicate eyes, but the remainder of the surface is decorated with incised geometric designs. It appears likely, due to the shape and designs of these small stones, that abstractions of human figures were intended. Abstraction of this kind occurs only in this area, where the art was apparently more complex or esoteric in design and meaning than in any other region of the Columbia Valley. This is further substantiated by a number of carved bones and stone fragments found in the archaeological investigations on the Island (Strong, Schenck and Steward, Smith M., 1950)." (p. 19)

Further excavations in the area by Caldwell (1956) and Butler (1957, personal communication) would substantiate the suggestion that this was the center of development for this art style.

Both Cressman et al. (1958) and Butler (1957) have placed the climax of the art style in the late proto-historic period. The limited information gained by Warren and Eng for Southwestern Washington is in agreement with this dating. A secondary center of development appears to have been in the Sauvies Island area (Wingert, 1952). However, west of this area the stone sculpture becomes less frequent (Wingert, 1952). This may be due to problems of sampling, or to a change in the preferred art medium from stone to wood. The Quinault wood carvings known from this area are in the same style as art farther east in the Columbia Valley (Wingert, 1949:71). This again is a trait which could have its origin in either the coastal or interior groups. However, the strong resemblance of the late Quinault wood carvings to the art style of The Dalles-Deschutes area, rather than to the art style of the more northern coastal peoples, suggests a late down-river diffusion of the Columbia Valley art style.

These speculations on the origin of the art style and its diffusion are further supported by the suggestion of its association with a death cult and evidence presented for a dissemination of the population of the Lower Columbia in the late proto-historic and contact periods (W. D. Strong, 1945).

Conclusions

The archaeological information from Southwestern Washington is extremely limited. However, the data presented here suggests:

1. A late "Plateau-like" or "Interior" complex penetrating as far as the western foothills of the Cascades.

2. The Interior influence appears to be less pronounced as a late overlay in the Sauvies Island and Lake River areas.

3. The ethnographic material and distribution of much of the prehistoric fishing equipment, and the art style, suggest a complex relationship of influences between Southwestern Washington and The Dalles-Deschutes area.

4. The archaeology of Southwestern Washington has been entirely limited to the western flanks of the Cascade Mountains and the Columbia Gorge, with the single exception of recent limited excavations on the coast, thus leaving the central and largest portion of the area completely unknown archaeologically.

Because of the limited amount of archaeology which has been done in Southwestern Washington, and because of the suggested complex interrelationships between Southwestern Washington and The Dalles-Deschutes area, the statement that a "Plateau-like tradition" of "long-standing duration" is

present in Southwestern Washington appears to be premature, in light of the information now at hand. It appears to the author that any generalized statement concerning the prehistoric development of Southwestern Washington cannot now be sufficiently substantiated by the archaeological data.

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SOUTHWESTERN WASHINGTON ARCHAEOLOGY: AN APPRAISAL

by Donald R. Tuohy and Alan L. Bryan

Introduction

The archaeology of Southwestern Washington is virtually unknown. Recent work in the area has been restricted to surveys accompanied by a limited amount of testing. In such a large geographical area, which embraces all of Washington west of the Cascade Mountains between the Columbia River and Southern Puget Sound, surface archaeology cannot begin to define the problems. Yet any data should help fill the archaeological vacuum with facts, the area's outstanding need. Too few descriptive data are extant, and too many interpretations or speculations about the area have appeared in print.

To remedy this situation, the following papers are presented. This report is designed primarily as a descriptive account of the results of an archaeological survey along the right-of-way of the Pacific Northwest Natural Gas pipeline in Southwestern Washington. The second paper, written by Claude N. Warren, presents new data from a series of sites in Clark and Skamania Counties of Southwestern Washington. A third paper, authored by James Alexander III, containing new information about a series of sites in Pacific County, Washington at the mouth of the Columbia, is still in progress, and unfortunately it cannot be included here as originally intended. It should be ready soon.

We hope that together these papers will form a single cedar plank which someday may be lashed to a solid framework of Southwestern Washington archaeology. A hole for the first upright of this framework has yet to be dug, and a plank house of Lower Columbia prehistory must await the architectural planning of the archaeologist's spade. Meanwhile, the archaeological potential of Southwestern Washington is rapidly diminishing. Huge sites have been buried or destroyed by the advance of "civilization." Others have been mutilated by erosion. Still others have been churned and sifted by thoughtless collectors. And yet, there are no plans to spare the remaining sites from such destruction. The "plank house" of Southwestern Washington prehistory may never be erected. With this in mind, our reports include some interpretation of our data, but we realize that our own coverage is thin, and that our data do not permit us to outline cultural sequences or past events for the area. On the other hand, we cannot ignore some of the recent speculations about the prehistory of Southwestern Washington which largely derive from excavations carried out in the Columbia Plateau east of the Cascades. Our discussions of these speculations and our own interpretations, however, should be considered subordinate to our descriptive data, lest our "cedar plank" become driftwood.

The Pipeline Survey

The archaeological survey along the route of the Pacific Northwest Pipeline had as its primary objective the salvage of archaeological materials which would have been destroyed by construction. For the most part, the

survey was confined to the pipeline right-of-way, a strip of land some forty feet wide. That part of the right-of-way selected for discussion here linked the cities of Skamania, Vancouver, Centralia (Washington), and Portland (Oregon). The survey represented a continuation of the archaeological salvage program which was sponsored by the Pacific Northwest Pipeline Corporation and which began in New Mexico in July, 1955 and continued in Washington until September, 1957 (see Nusbaum, 1956:27-29).

Archaeological field methods employed in pipeline salvage programs vary somewhat from standard archaeological procedures. Rather complete summaries of such procedures do exist (Wendorf and others, 1956), and it will not be necessary to repeat them in detail here. All sites located on the right-of-way were recorded on standard survey forms. Site locations were plotted on maps of the transmission line having a scale of ½ inch to 1 mile. In some cases, sites were plotted on "Alignment Sheets", aerial photos of the route having a scale of 1 inch to 1000 feet. Site designations followed the Smithsonian River Basin Surveys system. In this system, three groups of symbols are used to designate sites. Thus, since Washington is alphabetically the 45th state, all sites within the state are prefaced by the number 45. A second symbol denotes the county in which a site is located; Cl, for example, is the abbreviation for Clark County. The third symbol indicates the numerical listing of each site found within a particular county (see Bryan, 1955c:20). During the pipeline survey, ten designations were assigned to sites in Western Washington, 45-Cl-51 through 45-Cl-58 to sites in Clark County, 45-Le-51 to a site in Lewis County, and 45-Sn-13 to a site in Snohomish County.

The Sites and Artifacts

45-Cl-51

This site was a small chipping station. It was located on a partially wooded hill overlooking an unnamed tributary of Lackamas Creek in Clark County, Washington. Chipping detritus was widely scattered along 1100 feet of the right-of-way. Jasper and chalcedony were the preferred materials. Only three artifacts were recovered, a point, a scraper, and a pebble chopper. The point is made of obsidian. It is a triangular stemmed form with a broad, parallel sided stem and a convex base (Fig. 2, A). It is 33 mm. long, 26 mm. wide, and 7 mm. thick. The scraper is a keeled flake end scraper, 23 mm. long, 13 mm. wide, and 7 mm. thick (Fig. 2, B). The chopper is a fist-size quartzite pebble with a few percussion flakes removed from one end.

45-Cl-52

A few stone tools were found at this location. They came from a plowed field on a hill overlooking Fifth Plain Creek, a tributary of Lackamas Creek in Clark County, Washington. The artifacts include four pebble tools and a few chips. Two of the pebble tools are fist-size choppers with percussion flaked bits. The other two are pecked pebbles. One is a hammerstone with pecked surfaces on one end and one face, and the second is an anvil stone having a pecked area 6 mm. in diameter on one face.

45-Cl-53

This site was another chipping station. Chipping detritus was scattered along 175 feet of the right-of-way, but most of the detritus was concentrated in a plowed field near a small tributary of Mill Creek in Clark County, Washington. Dense fine grained rocks were the preferred materials, but some chalcedony and jasper were also present.

Four chipped stone artifacts were recovered. Two specimens are narrow, leaf-shape points with serrated edges and convex bases (Fig. 2, C, D). The larger specimen is 43 mm. long, 16 mm. wide, and 5 mm. thick; the tip is missing. The smaller specimen is 28 mm. long, 10 mm. wide, and 4 mm. thick; it was made of a flake having a triangular cross-section. One of the other two artifacts is a side scraper. It is a plano-convex flake of petrified wood having one pressure retouched, excurvate edge; it is 31 mm. long, 36 mm. wide, and 8 mm. thick. The fourth specimen is a flat, oval-shaped siltstone pebble with bifacial percussion trimming all the way around the perimeter. It is 69 mm. long, 50 mm. wide, and 14 mm. thick (Fig. 1, E).

45-Cl-54

This camp site is also located in Clark County, Washington. It is situated on an old alluvial terrace of the Columbia about one half a mile south of the East Fork of the Lewis River and some 200 feet above the flood plain of that river. The site is adjacent to a small tributary of the Lewis which has cut a deep ravine into the terrace (Plate 2, Fig. A). Six miles downstream, the East Fork joins the Lewis, and two miles below this confluence, the system empties into the Columbia.

The present environment is typical of that found west of the Cascades in Washington and Oregon. The landscape is dominated by numerous small drainages, and by the Northwestern Hygrophytic Coniferous Forest. The natural vegetation expresses the region's relatively warm and wet climate. The average annual precipitation ranges between 50 and 60 inches, and maximum precipitation occurs during Winter months. Natural prairies do occur among the forested uplands and rolling terraces, but with few exceptions, prairies are small and most of the usable land has been cleared. Some of the clearing was done at a relatively early date. The site is only fifteen miles north of Old Fort Vancouver, and much acreage in the vicinity of the Fort had been cleared and cultivated by the Hudson's Bay Company early in the nineteenth century (Winther, 1950:78).

When the site was discovered, the right-of-way had not been purchased, and the owners, Mr. and Mrs. Kenneth Alsaben, kindly permitted us to camp on their property and to excavate several test squares on the proposed right-of-way. Chipping detritus and other artifacts were scattered along more than 1300 feet of the construction zone. The test excavations were designed to locate cultural concentrations and to determine their depth. The cultural deposit proved to be shallow, and the salvage excavation was limited to a few test squares.

Seen in retrospect, however, this site deserved more attention than it received "...in the running competition between bulldozers and trowels"

(Nusbaum, 1956:27). A collection of artifacts from areas adjacent to the right-of-way made by William and Harold Koethe, contained specimens worthy of the picture frame or cigar box. (The Koethe brothers now house their collection in a glass enclosed case.) Among these specimens are 26 longitudinally girdled stones having oval to pear-shaped outlines (Fig. 1, A, C). Loud (1918:428, Plate 17, 8a and 9) calls identical specimens simply "girdled stones". The specimens from 45-Cl-54 range in size from 40 x 45 x 30 mm. to 80 x 50 x 35 mm., although some are slightly wider or thicker than these dimensions indicate. Other ground or pecked stone specimens ascribed to the Lewis River site include four stone bowls, three of basalt and one of granite (range; 238 x 192 x 152 mm. to 331 x 229 x 127 mm., depth of depressions; 70 to 121 mm.), a large rhyolite cobble with an oval design element pecked into one face (size of design; 260 mm. long, 220 mm. wide), a centrally perforated basalt sinker (81 mm. in diameter) with a ground facet on one edge, three pestles, two of granite and one of basalt (Osborne's "short" type, Osborne 1957a:63, and Plate 20b, 5), which range in size from 191 x 70 x 46 mm., to 227 x 75 x 52 mm., and a fragment of a tubular stone pipe (59 x 26 x 22 mm., Fig. 1, B). Chipped stone artifacts include seven bifacially flaked discoidal scrapers (size; 58 x 48 x 13 mm. to 70 x 56 x 14 mm.), one bifacially flaked triangular basalt scraper which was chipped to shape and then ground smooth (42 x 27 x 7 mm.), some sixty odd leaf-shaped points and point fragments of basalt (range; 32 x 13 x 3 mm. to 98 x 62 x 10 mm.), and four essentially leaf-shaped points with crude side or corner notches. In addition to the ground basalt scraper noted above, one of the leaf-shaped points also exhibited grinding wear. It too had been chipped to shape and then ground so smooth that flaking scars were almost obliterated (size; 44 x 18 x 7 mm.).

Ninety-six stone artifacts were recovered by the pipeline survey team, forty-six from the surface of the site, and the remainder from eight 5-foot square test pits. Many of the artifacts were concentrated on two small hillocks 50 to 100 feet north of the construction zone. Two test squares excavated into one of these hillocks revealed a sub-surface feature, a cache of milling stones. The cache was designated as Feature 1 (Plate 2, Fig. B). The feature was an oval-shaped mound of worked and unworked pebbles and other artifacts in a matrix of fine sandy loam. Two hearths of charcoal and ash flanked the cache. The cache itself lay beneath 0.7 inches of cover, and it extended to a depth of 2.0 feet below ground surface. Twenty-two artifacts were found in association with the feature. In addition to the milling stones, two point fragments, one blade fragment, five pebble choppers, and one pitted pebble were included in the cache.

The stone tools recovered from the site can be divided into two major classes: (1) Those manufactured from water worn pebbles or cobbles which were chipped, ground or pecked in such a manner that they retained much of their original cortex and natural oval form, and (2) those which were shaped from microcrystalline varieties of quartz, chalcedony, jasper, agate, and the like. The pebble tools of the first class are made of a number of different materials, but basalt and quartzite predominate. Quartzite pebbles were often used to make choppers or hammer stones, while the softer, medium grained pebbles of basalt more often served as grinding tools.

Pebble Choppers: Thirty-three pebble choppers comprise the most numerous group of artifacts from the site. All were manufactured from oval pebbles

and cobbles having flattened-oval to sub-angular cross-sections. Generally, the pebbles were broken along the transverse axis, and heavy percussion flakes were removed from the broken end. The flakes were removed from one face in an oblique manner producing an irregular cutting or chopping edge. Some specimens show wear on the sharpened edges, and others exhibit pecking wear on butt ends (Fig. 1, D). The specimens range in length from 39 to 138 mm., in width from 25 to 98 mm., and in thickness from 18 to 61 mm. Twenty-one specimens were surface finds, seven came from the test squares, and five were associated with Feature 1.

Pebble Flake Choppers: Six other chopping and/or cutting tools were classified as pebble flake choppers. They are rather large flakes or fragments of pebbles. Part of the smooth outer cortex of the pebble is preserved on all specimens either as a butt end or as one face of the tool or both, and all have one or more sharp working edges. They range in length from 58 to 98 mm., in width from 45 to 76 mm., and in thickness from 17 to 35 mm. Three of these implements were surface finds, and the remainder came from the test squares.

Pebble Hammers: These eleven hammerstones are pebbles having oval outlines and cross-sections. The amount of pecking wear on each specimen varies, as does the location of the wear. Some show wear on both ends, or on one or both faces, while others have had almost all of the smooth outer surface of the pebble removed by use. Quartzite was the preferred material. Dimensions range from 51 x 42 x 35 mm. to 110 x 80 x 54 mm. Four specimens were surface finds, seven came from the test squares, and two of the latter were associated with Feature 1.

Pitted Pebbles: Three of these tools are complete, and the fourth is a fragment. All are round to oval shaped pebbles having oval cross-sections. They are unmodified except for shallow pits which have been pecked into both faces of the individual specimens. These pits or depressions are centrally located, and they vary from 10 to 15 mm. in diameter, and from 2 to 4 mm. in depth. The pebbles range from 63 to 118 mm. in length, 58 to 80 mm. in width, and 48 to 80 mm. in thickness. Three were surface finds, and the fourth was associated with Feature 1.

Ground Pebbles: Eight complete hand stones or mullers and seven fragmentary specimens form the bulk of the grinding implements. These are similar to but different from the edge ground pebbles recently found in Klickitat County on the eastern flanks of the Cascades (Warren et al., n.d.). They are all medium grained basalt pebbles exhibiting bifacial grinding wear. The grinding wear is frequently at right angles to the long axis of the specimens, but on three, the wear forms a circular pattern in the center of each face. From this admittedly small sample, we would guess that both a light rotary motion and a simple to-and-fro motion produced the grinding wear. The complete specimens range from 58 x 58 x 38 mm. to 112 x 108 x 57 mm. Four complete and two fragmentary hand stones were found in association with Feature 1. Seven specimens were surface finds, and the remainder came from the test squares.

Nether Stones: Two nether stones used in grinding also were recovered in the test squares. One was measured in the field and left at the site. It was a large cobble with flat faces (260 mm. long, 270 mm. wide, and 140 mm. thick).

A very shallow depression or worn area was present on one face. The depression was 80 mm. in diameter. The second specimen was associated with Feature 1. It is a large cobble with shallow oval shaped grinding depressions on both faces. One grinding surface is well developed; it is 100 mm. long, 70 mm. wide, and 1 to 3 mm. deep. The nether stone itself measures 220 x 160 x 101 mm.

Points: Seven specimens were classified as points. Five are fragments with pointed or rounded ends. One of the nearly complete specimens is a narrow leaf-shaped form with serrated, excurvate edges. The base is missing. The point is 37 mm. long, 12 mm. wide, and 2 mm. thick (Fig. 2, K). The second specimen is made of chalcedony. It is a broad leaf-shaped form. The tip is missing. It is 32 mm. long, 23 mm. wide, and 8 mm. thick (Fig. 2, I). Two point fragments were associated with Feature 1, and the remainder were surface finds.

Blades: Three artifacts were called blades. Two are fragments of bifacially flaked leaf-shape blades; one is a pointed tip, and the other is a rounded base. The third specimen is a nearly complete broad leaf-shape form with a thick, lenticular cross-section. All exhibit over all percussion flaking and a slight amount of pressure retouching along the edges. The complete specimen is 65 mm. long, 36 mm. wide, and 11 mm. thick (Fig. 2, N). The complete blade was a surface find. The basal fragment was associated with Feature 1, and the tip came from one of the test squares.

Scrapers: Twelve scrapers were recovered. They are divided into three types, side, end, and keeled flake scrapers. The side scrapers are irregular flakes with at least one straight or convex working edge showing pressure retouching (Fig. 2, G). They range in size from 16 x 19 x 4 mm. to 53 x 30 x 7 mm. The end scrapers are plano-convex flakes having one rounded end. The high-angled pressure retouching is not restricted to the ends, but it extends around the edges of the flakes as well (Fig. 2, J, L. O). End scrapers range in size from 18 x 19 x 4 mm. to 31 x 39 x 8 mm. The two specimens classified as keeled flake scrapers are asymmetrically oval flakes of basalt. They have a definite keel on one face, and they are bifacially percussion flaked (Fig. 2, E, F). One is 41 mm. long, 27 mm. wide, and 14 mm. thick, and the second is 50 mm. long, 27 mm. wide, and 12 mm. thick.

Gravers: Two gravers were recovered in the test squares. One is a small triangular flake which has been retouched on two edges (Fig. 2, H). It has a pointed tip which has been worn smooth by use as a graving tool. The specimen is 20 mm. long, 16 mm. wide, and 3 mm. thick. The second graver is an oval shaped thick flake with one projecting tip. A number of small flakes have been removed from this tip presumably by use as a graver (Fig. 2, M). The specimen is 39 mm. long, 28 mm. wide, and 13 mm. thick.

45-Cl-55

This site and the next three to be described were found on the Portland lateral of the pipeline. The lateral carries gas from the main line near Battleground, Washington to Portland, Oregon, a distance of some twenty miles. All four sites to be described were found on the flood plain of the Columbia River between Shillapoo Lake and Lake River, Clark County, Washington.

A previous survey of the Columbia flood plain in this vicinity had demonstrated that large sites were numerous (Strong, n.d.). The pipeline route passed between two large village sites. One of these (Strong's site 4, and Warren's 45-Cl-11) is roughly one half of a mile west of the pipeline route on the north bank of Lake River (see Plate 1, Figs. A, B). It is composed of both rectangular house depressions and smaller circular depressions. The rectangular depressions are flanked by a deep midden which contains much shell and bone. Strong reports that an amateur archaeologist found a "carved whale bone" artifact at this site. A potsherd of fired clay also came from this site. The sherd was analyzed and described by Osborne (1957b:31-2, and Fig. 1, a, b, c). Trade items recovered by amateurs include a "copper bangle" and "hand moulded musket balls" (Strong, n.d.). Strong is convinced that this site was a historic village that Lewis and Clark called "Shoto" (Ibid.).

The second village site, (Strong's site 5), is located approximately one mile east of the pipeline lateral on the south bank of Lake River. It consists of a series of large circular house depressions with adjacent middens of shell and bone. Strong (n.d.) reports that several burials eroded out of the midden during a recent dredging of Lake River, and that at least one trade item, "a copper bangle" had been found at this site.

Site 45-Cl-55 was a small camp located on the north bank of Lake River. (See Plate 1, Figs. C, D). Its presence on the right-of-way was detected by a few surface artifacts and a saucer shaped lens of charcoal, ash, and charred earth exposed in the cutbank of the river. Three five foot square test pits were excavated along the center line of the pipeline. One square cut through the hearth area. Stone chips, cracked rocks, and a few splinters of burned bone were associated with the hearth. The hearth lay beneath a foot of sterile sandy silt, and it was eight to fifteen inches thick and approximately eight feet in diameter.

Eight artifacts were recovered; an abrading stone, a tip of a projectile point, a gun flint, and five pecked stone objects. The abrading stone is a small pebble with one face smoothed by use. It is 40 mm. long, 24 mm. wide, and 23 mm. thick. The chalcedony point tip is 18 mm. long, 20 mm. wide, and 4 mm. thick. The gun flint is a rectangular piece of flint 25 mm. long, 18 mm. wide, and 5 mm. thick. The pecked stone objects include: an anvil stone with small pecked areas on each face (102 x 52 x 32 mm.), two oval-shaped pebble hammer stones with pecked and battered ends (82 x 62 x 28 mm., and 68 x 38 x 27 mm.), and two circular pebbles both of which were centrally perforated sinkers (?). One measures 63 x 75 x 20 mm., and the other 70 x 58 x 20 mm.

45-Cl-56

This small camp was located on the south bank of Lake River directly opposite 45-Cl-55. Many pockets of fire-cracked rocks were observed in the cut bank. Three test squares were excavated. Except for a few stone chips, the test squares were culturally sterile. Two stone artifacts were recovered from the surface of the site however. One is a fragment of a hand maul, and the second is a discoidal, bifacially pitted cobble. The basalt hand maul has a pecked groove 20 mm. wide, and 5 mm. deep encircling the

transverse axis of the implement. One end of the specimen was pecked to form a slightly concave working surface. The specimen itself is 109 mm. long, 83 mm. wide, and 62 mm. thick. The dimensions of the pitted cobble were not recorded.

45-C1-57 and 58

These two sites are represented by a series of hearths or ovens which were discovered in the walls of the pipeline trench on the eastern shore of Shillapoo Lake. Altogether, twenty such hearths were recorded. They ranged from 3 to 12 feet in length, and from 2 inches to 2 feet in thickness. Most of them contained charcoal and ash, and a few fire-cracked rocks, but little else. All were beneath a foot to a foot and one half of sterile overburden. Two surface artifacts were found on the lake shore; a quartzite pebble hammer stone with pecked and battered ends (128 x 86 x 60 mm.), and a pebble chopper (102 x 56 x 52 mm.).

Other Pipeline Sites

In addition to the sites found on the prairies and on the Columbia River flood plain in Clark County, several other sites were recorded on or near the pipeline right-of-way in Washington. Several of these sites will be the subject of separate and more detailed reports. Those pipeline sites we wish to include here are four in number. Only two were located on or near the pipeline in Southwestern Washington. One was recorded in Cowlitz County, and the second in Lewis County. The other two sites are quite far removed from the area under discussion, but since these sites and the artifacts from them are useful for comparative purposes, they will be included here. One of the latter sites was found near Rock Creek in Skamania County. Rock Creek is located on the eastern flanks of the Cascade Range in south-central Washington. The second site was found on the north bank of the Snohomish River in Snohomish County, Washington. This site is approximately 100 miles north of the area under discussion.

The Greene Site

About one quarter of a mile west of the intersection of the pipeline right-of-way with the Toutle River in Cowlitz County, Washington, Mr. Clarence H. Greene had discovered 7 or 8 Indian burials while plowing his garden. The discovery was made some 20 or 30 years ago, and Mr. Greene had given away many of the artifacts he had found with the burials. Nevertheless, some artifacts were still in his possession, and notes on the collection were made.

The collection contained a number of trade items which indicated that the bodies probably were interred during the Nineteenth Century. Among the trade items were brass rod bracelets, Phoenix buttons, thimbles, fragments of rolled copper, and Hudson's Bay Company glass beads of various sorts. One trade item showed considerable work. It was a half round brass rod which had been notched at the base and perforated near its center (Fig. 1, I). Items of native manufacture included in the grave goods (which are still in Mr. Greene's possession) were limited to five projectile points and one carved stone figurine. Four of the points are stemmed forms. The fifth is

leaf-shaped with a convex base. They range in size from 31 x 21 x 4 mm. to 51 x 21 x 4 mm. Two points are made of obsidian, two of chalcedony, and one of jasper. The stone figurine was carved in the round, and apparently it represents a zoomorphic (bird?) figure (see Figure 1, H). The figurine is 166 mm. long, 142 mm. wide, and 140 mm. thick.

45-Le-51

This site is another camp site. It was located on a flat terrace overlooking the south bank of the Newaukum River, Lewis County, Washington. Several hundred waste flakes from tool making were recovered. Many of the waste flakes were basalt, felsite, and other fine grained rocks, but the vast majority of flakes (roughly 95 per cent) was microcrystalline minerals of one sort or another. Eight test squares were excavated on the center line of the right-of-way, and twenty-eight chipped stone artifacts were recovered. The assemblage is limited to points, blades, scrapers, cores, and a single pebble chopper.

Points: Twelve specimens were classified as points. Seven are halves of points with pointed or rounded ends. Two are narrow leaf-shaped points with convex bases (Fig. 2, T). The tip of one specimen is missing, and it is 29 mm. long, 18 mm. wide, and 8 mm. thick. The complete specimen is 50 mm. long, 15 mm. wide, and 9 mm. thick. Three are broad leaf-shaped points with convex bases (Fig. 2, P). One specimen is a fragment; the others measure 41 x 25 x 12 mm. and 47 x 25 x 11 mm. respectively.

Blades: Two artifacts are bifacially percussion flaked ovate blades. They are rather crudely made, unfinished fragments. They may be "blanks" or "rejects". One is plano-convex in cross-section; it is 50 mm. long, 33 mm. wide, and 15 mm. thick. The second specimen is biconvex in section, and it is 57 mm. long, 41 mm. wide, and 21 mm. thick.

Scrapers: Ten scrapers were found. They were segregated into three types, side, end, and large flake scrapers. The five examples of side scrapers are small flakes with one or more straight edges showing pressure retouching. They range in size from 25 x 18 x 2 mm. to 40 x 31 x 10 mm. The four end scrapers are well made and specialized tools. They are plano-convex flakes with one rounded end. High-angled pressure retouching is evident on the ends and around the margins of the specimens (Fig. 2, R, S). They range in size from 25 x 17 x 5 mm. to 29 x 27 x 6 mm. The single large flake scraper is an irregular flake of basalt with one straight and one excurvate edge both bifacially percussion flaked (see Fig. 2, Q). It is 67 mm. long, 64 mm. wide, and 15 mm. thick.

Cores: Three specimens were classified as cores. Actually, they may be tools of some sort. All three are rather thick oval specimens which have been bifacially percussion flaked (sizes: 38 x 26 x 12 mm. and 50 x 38 x 18 mm.).

Chopper: The chopper is one half of a basalt pebble. It was broken along the transverse axis, and a few percussion flakes were removed from the broken end in an oblique manner. It is 97 mm. long, 64 mm. wide, and 38 mm. thick.

45-K1-105

Part of this site was destroyed by pipeline construction. It was located on the steeply sloping east wall of Rock Creek Canyon, Klickitat County, Washington. The site consisted of three talus pits or semicircular rock structures formed by quarrying from the basalt talus. One of the structures lay on the center line of the pipeline. A second structure was fifty feet south of pit 1, and slightly downslope. The third was located 200 feet downslope from pit 2, and 225 feet north of the center line. Two other stone structures were noted 1000 feet downslope (the canyon is more than 1800 feet deep) and 50 feet north of the center line. Their dimensions were not recorded. Pits 1 and 2 had low (1.5 to 2.0 feet high) rock walls piled on the downslope rim of the pits, and the third had a similar wall on the upslope rim (Plate 2, Figs. C, D). The pits varied from 5 feet 3 inches to 8 feet 5 inches in diameter and from 3 to 5 feet in depth. Two were excavated to a depth of 3 to 4 feet below the original level of the pits, but nothing was found in them.

Similar structures are common in this region of the Plateau. Caldwell and Carlson (1954:442) suggest that such stone works were constructed incident to the quest for spirit power. Such vision quests were carried out in relatively remote areas, yet reasonably accessible from centers of habitation. Site 45-K1-105 meets these requirements, and Caldwell and Carlson's interpretation seems reasonable.

45-Sn-13

This site is located on the north bank of the Snohomish River in Snohomish County, Washington. It was the only site found on the right-of-way in Northwestern Washington. It was a small camp with much river mussel shell and midden debris exposed in a cut bank. Permission to excavate two test squares in the badly eroded bank was obtained from the property owner, Mr. Frank Daxon. The test excavations were carried out in the Fall of 1956 by Richard Forbis and the senior author.

The test squares yielded four artifacts. They were contained in a shell midden which was composed of discolored earth, charcoal and ash, fire-cracked rocks, bone splinters, and river mussel shells. The midden lay beneath 5 inches to a foot and one half of sterile silt, and it varied in thickness from 2 inches to 1.0 feet. The tools recovered from the midden include a pebble knife, a flake knife, a discoidal scraper, and an abrading stone. The pebble knife is one end of an oval pebble of granite broken so as to produce a clean sharp edge. This edge has been dulled by use. The specimen is 68 mm. long, 40 mm. wide, and 24 mm. thick. The flake knife is a tabular flake of basalt with one straight sharp edge showing use (size: 55 x 42 x 5 mm.). The discoidal scraper is a bifacially percussion flaked implement of basalt, 42 mm. long, 37 mm. wide, and 15 mm. thick. The abrading stone is a fragment of a granite pebble with both faces smoothed by grinding wear (size: 50 x 38 x 22 mm., Fig. 1, F).

In addition to the stone tools found in the midden, four other artifacts were found nearby or noted in collections. Two of these were found on top of a cliff about three hundred yards from the river. One specimen was a

fragment of a narrow leaf-shaped basalt point (Fig. 2, U). It was rather crudely chipped by percussion flaking (size: 45 x 21 x 4 mm.). The second specimen is a well made haft or handle of bone. It was cut to shape and grooved to receive a blade; size, 76 x 26 x 20 mm. (Fig. 1, G). The other tools were isolated finds on the southern bank of the river. They include a spool shaped hand maul with a nipple top; size 162 x 80 x 47 mm., and crudely chipped basalt blade with the tip missing; size, 85 mm. long and 46 mm. wide.

Summary

A summary of the data already described can best be achieved by grouping the sites into types and classes which may have some chronological value. Historic sites are treated first, and others of prehistoric age follow in an uncertain time scale.

Historic Sites and Housepits - Trade items or artifacts of Caucasian manufacture were found at Strong's sites 4 and 5, 45-Cl-55, and the Greene site. The types of sites represented include two villages with housepits, a hearth area, and a burial ground. Strong's sites 4 and 5 and 45-Cl-55 are located within the former boundaries of the Clackamas (Chinook) tribe. The Greene site is located within what was Coast-Salish speaking Lower Cowlitz tribal territory.

Of particular interest is the fact that trade goods have been recovered from Strong's sites 4 and 5, both of which contain circular depressions usually regarded as housepits by Plateau archaeologists. Site 5 has this type of circular depression and none other. Site 4 (Warren's site 45-Cl-11), on the other hand, which almost certainly is the Chinook village Lewis and Clark called "Shoto" (Strong, n.d., Map 2), has both rectangular and circular depressions (Plate 1, Figs. A, B). Whether or not 45-Cl-55 was merely a hearth or a hearth area within a circular house depression is a moot question. Unfortunately, the press of construction did not permit an adequate test excavation of the hearth to be made (Plate 1, Fig. D).

These data unequivocally demonstrate that circular depressions are features found at historically known Clackamas villages on the flood plain of the Lower Columbia west of the Cascades. Whether such depressions are houses or other structures, or whether or not they are coeval with associated rectangular house depressions will require careful historical research and meticulous excavations. There are more than sixty village sites between St. Helens and Cascade Locks (Strong, 1957), and a thorough-going, comprehensive analysis of the settlement patterns on the Columbia River flood plain and adjacent foothills must be made before any statements of relationships or descriptive generalizations can be derived from house pit data.

It is apparent, however, that circular house depressions on the flood plain of the Columbia River in Southwestern Washington cannot be construed as part of the evidence of a "Plateau-like tradition of long standing duration" (Bryan, 1957:9). We simply do not have enough data to support such an hypothesis. This point will be discussed later. At present, we would suggest that circular depressions can be considered as much a part of the ethnographically known Chinook (Coastal) cultures of Southwestern Washington

as they are a part of the ethnographic Plateau cultures (Ray, 1939:137-140; Smith, 256-264). Much digging will have to be done in Southwestern Washington before working hypotheses concerning the spread of house types to or from the Plateau can be formulated.

Burials - Burials were reported at the Greene site, and at Strong's site 5. We have no indication of the manner of interment at either of these sites. Grave goods, including trade goods and an aboriginal carved stone figurine, were found at the Greene site. The interments here apparently were very shallow and discovered during the first plowing of Mr. Greene's garden. At Strong's site 5, at least two skeletons had eroded out of the cut bank, and others reportedly were uncovered during the dredging of Lake River. Whether or not these burials were associated with the circular depressions or the contact goods present at the site, we cannot say.

Campsites - This class of sites is made up of chipping stations, temporary camps, and semi-permanent camps. These designations are merely a convenience. Included are sites 45-Cl-51, 52, 53, 54, 45-Le-51, and 45-Sn-13. We would suggest that two of the chipping stations (45-Cl-51, 52) are probably younger than the third (45-Cl-53). This is just a guess based upon the presence of a triangular stemmed point of obsidian at 45-Cl-51, and the preference for chalcedony at both 45-Cl-51 and 52, as opposed to the presence of narrow, leaf-shaped and serrated points, and the preference for fine grained rocks at 45-Cl-53. The point types found at the latter site correlate with those found at 45-Cl-54, a semi-permanent camp with a large artifact inventory, and at 45-Le-51, a temporary camp on the Newaukum River. Of course, the differences between these camps (45-Cl-51, 52, and 45-Cl-53, 54, and 45-Le-51) may be cultural and not temporal.

A comparison between the artifacts from camp sites in Southwestern Washington and those from 45-Sn-13, a semi-permanent camp on the Snohomish River, and other Northern Puget Sound sites (King, 1950) indicates that leaf-shaped points and blades of non-complex outlines are common to both areas. These tools are characteristic of older land-oriented cultures of the Northern Puget Sound area which Bryan (1955b), following Carlson (1954), termed "Archaic" (a period or stage), and later amended to include the "Trans-Cascadian" (a tradition and a province, Bryan, 1957:13). Although neither the exact content nor the precise chronology of such a "Trans-Cascadian" tradition has been worked out, we believe it does exist in Washington, and that in Southwestern Washington, at least, it includes milling stones, and "girdled" stones of the types found at 45-Cl-54. Interestingly, identical girdled stones have been found in central and northern California (Loud, 1918:364-5), and at the Five Mile Rapids site in The Dalles-Deschutes region (Cressman, 1958). At the latter site, they are known as "girdled bola stones" and they predate a hard pan deposit which has been bracketed by C-14 dates at 7875 ± 100 from the stratum below to 6090 ± 80 from the bottom of the stratum above the hardpan (Cressman, 1958:113). Milling stones are also common in Cressman's cultures, and such tools are usually regarded as an aspect of the Paleo-western (Wormington, 1957:21), or Desert Cultural Tradition (Jennings, 1957:281). Milling stones with well developed grinding facets such as those from 45-Cl-54 are not common at sites west of the Cascades.

Sites with Features - Four sites with features (i.e., anything we wish to specify within a site, following Lehmer's definition, 1954:7) were located by the pipeline survey, 45-Cl-56, 57, 58, and Kl-105. The pockets of fire-cracked rocks noted at Cl-56 probably were part of a sub-surface earth oven. Such ovens were widespread and well known in the Plateau (Osborne, 1957a: 140, Table 22). The series of hearths found in the pipeline trench at Cl-57 and 58 may well have been a series of small ovens and hearths which were contemporaneous with an old strand line of Shillapoo Lake. The talus pits at Kl-105, a Plateau site, are probably structures which were constructed incident to the quest for spirit power. We have no way of knowing the age of these features.

Discussion (by Tuohy)

To this point, and with the exception of Bryan's (1957) interpretation of circular house depressions in Southwestern Washington as part of the evidence of a "Plateau-like tradition of long-standing duration," the authors are in accord with the presentation of the data and with the interpretations contained herein. However, in order that each author might develop his thinking about the problems posed by the pipeline sites and the related larger problems of Northwest prehistory in general, the following sections of this paper will be independently written. The ideas themselves are the product of protracted (and often heated) debate. The following paragraphs, then, summarize the senior author's thinking.

The problem of Northwest Coastal-Interior relationships has long been of paramount importance to workers in the Pacific Northwest. Ethnologists have awaited archaeological data which would give their studies the time depth and perspective so requisite to explanations of, or generalizations about, Northwest Coast culture, one of the truly remarkable developments of native culture in North America. Recently, archaeologists have responded, and several broad theoretical approaches or syntheses, which by and large lack the descriptive minutiae and the corpus of data upon which all interpretations should be based, have been subjected to critical reviews, and the resulting controversies have done much to illuminate Coast-Plateau relationships and other problems keyed to Northwestern prehistory. It is not my intention to review the issues and the data here except insofar as they have bearing upon Southwestern Washington archaeology, or, rather, the lack of it. For broader coverages I refer the reader to Borden (1953-54, 1952, 1951, 1950), Caldwell (1956, 1953-54), Osborne, Caldwell, and Crabtree (1956), Smith (1956), Suttles (1957), Bryan (1957, 1955b), and Osborne (1958).

Since this discussion must be limited, I propose to examine passages from only two of the above references. The first paper contains a statement about Southwestern Washington archaeology which is still apropos. It was made by Osborne et al. (1956:120), and I quote:

> "A problem of some magnitude, which is absolutely untouched and which is probably germane, (to the problem of Northwest Coast-Interior relationships)

> centers around the mouth of the Columbia in old Chinook territory. Here stone chipping was excellent and it appears to have spread coastally. Whether there is a Plateau orientation here or whether or not deep sites with sequences comparable to Borden's at the Fraser mouth exist are both questions that we cannot answer."

The only comments I can make here take the form of other questions. Is stone chipping excellent in Southwestern Washington? Did it spread coastally, and, if so, when? These questions can only be answered by excavations carried out at various sites along the lower reaches of the Columbia River, and at sites both on the Pacific Coast and inland between the Willapa Hills and the Cascades. To date, much of this region is archaeological terra incognita. Some suggestions as to the spread of stone chipping along the flood plain of the Columbia are offered by the pipeline survey and by the Warren-Eng survey however. Warren notes that certain "Plateau" point types (specifically, Wakemap I to Wakemap IV points dated at ca. 900 to 1850 A.D.; see Warren's paper) apparently form a late overlay in the Sauvie's Island-Lake River area. At several of the pipeline sites on rolling uplands or elevated terraces (Cl-53, 54, and Le-51) the stone chipping tradition, if I can call a few points from a few sites a tradition, apparently differs considerably from that found at Wakemap Mound, a large stratified site in The Dalles-Deschutes region east of the Cascades.

This brings us to an important point. Can Wakemap Mound be called a "Plateau" site? Certainly, I would not suggest that it should be called a "Coastal" site. Geographically, it is quite far from the coast, yet culturally it is "Coastal." The ethnographic Coast-Plateau or Coast-Interior dichotomy projected back to a prehistoric time level, it seems to me, is the stumbling block over which many a Northwest archaeologist has tripped.

Caldwell's otherwise exemplary report on the results of his excavation of Wakemap Mound (Caldwell, 1956) is one case in point. After the artifacts had been exhumed from Wakemap Mound, the stratigraphy duly recorded, and the artifacts classified, Caldwell took the next logical step; he looked for similar artifact types in adjacent regions. He was on safe ground when he found similarities between Wakemap artifacts and those found by archaeologists at other Plateau sites. But when it came to Southwestern Washington, he had only three sites to draw upon for his comparisons. These sites, Cl-14, Cl-16, and Co-7, are all located on the flood plain of the Columbia River, two in Clark County, Washington and the third on Sauvie's Island, Columbia County, Oregon. These three sites were excavated (screened would be a better term to use) by members of the Oregon Archaeological Society and inadequately reported in the Society's organ, "Screenings." The data as reported in "Screenings" then were all that Caldwell had to set up the following hypotheses about which he wisely expresses his own doubt (Caldwell, 1956:252).

> "Despite the possibly skewed viewpoint, the following is offered as a tentative systematization of the prehistory of the Lower Columbia (Southwestern Washington).
>
> 1. The region is characterized by a basic Plateau material culture and has been so from an early time.

2. The pattern of increasing emphasis upon a riverine subsistence economy postulated for the Plateau is also suggested here.

3. At the same time there are ties with the Coast (Puget Sound, Fraser Delta).

a. In terms of the early Interior, Archaic-Early maritime relationships (C1-16).

b. In terms of the Late or developed Plateau period (emphasis upon bone, Strong, et al., 1930, p. 146, and lack of chipped stone) in which an expanding Northwest Coast influence was felt.

Early Maritime-Archaic	Recent
Wakemap I, II	Wakemap III, IV
C1-16	C1-14, Co-7

This formulation seems to reinforce the suggestion of a long, intimate, mutually interinfluencing relationship between the Coast and the Interior. Neither area can be understood except in terms of the other."

In this scheme, Caldwell applies "Plateau material culture" to manifestations found along the "Lower Columbia," equates a postulated increasing emphasis upon a riverine subsistence economy in the Plateau with a hypothetically similar pattern in the Lower Columbia, and suggests ties between the Coast (Puget Sound, Fraser Delta) and the Lower Columbia in terms of a hypothetical early Interior period and a Late or developed Plateau period. Now if Caldwell had substituted a basic Wakemap-like material culture for "a basic Plateau material culture" in point 1., and Wakemap for "The Plateau" in point 2., deleted Fraser Delta in point 3. a, and changed "Late or developed Plateau" to ethnographic Plateau in 3. b, and written Wakemap and three down-river sites for "Coast and Interior" in his concluding paragraph, I might agree with his tentative outline. My reasons for suggesting these changes are in part due to data which Caldwell did not have when he formulated his scheme. For example, Caldwell's original estimate for the Early Maritime-Archaic period was 2500 years before the present; the C-14 dates for Wakemap I and II are 1080 ± 200 and 1050 ± 200 (see Warren, this issue). Then, too, despite the fact that Wakemap is located only 180 miles upstream from the mouth of the Columbia at the eastern gateway of the Columbia Gorge, and that the Wishram and Wasco tribes inhabiting The Dalles region were Chinookan speakers, and that Chinookan peoples occupied both banks of the Columbia all the way from The Dalles to the mouth of the Columbia, Wakemap Mound is called a "Plateau" site, and Wakemap artifact types, when found elsewhere, are called "Plateau" traits. There is reason to believe that other terms, or at least modified terms, would be preferable. Crabtree (1957), for example, has shown that sites in the McNary region of the Plateau differ in total artifact content from either Wakemap Mound or the Vantage region sites further north, and that some of the traits found at McNary sites are sufficiently distinct to demarcate that region culturally and temporally from Wakemap. Swanson's (1956) cultures and sequences at Vantage seem to bear little relationship to those found at Wakemap. Cressman (1958) has suggested that Desert Culture hunters and gatherers came out of the Great Basin at a very early date (ca. 9000 years ago), occupied an

area directly opposite Wakemap, the Five Mile Rapids Site, and adapted themselves to a riverine subsistence base. Butler, who continued the excavation of Wakemap Mound after Caldwell had completed his test trenches, found post molds and split cedar planks forming a rectangular house structure at the very base level of Wakemap Mound (Butler, 1958a:31-65, Plates 2 and 3, and Fig. 10). Butler concluded from this evidence, contrary to Caldwell's interpretations, that the early levels of Wakemap Mound contained evidence of large-scale woodworking, well developed woodworking techniques, and elaborate bone and antler carvings (Butler, 1958a:64). Butler's finds, then, clearly demonstrate that Wakemap Mound may be regarded as an upriver extension of "Coastal" culture. Certainly, well developed woodworking techniques, rectangular wooden house structures, and well developed techniques for carving in bone and antler, are hallmarks of developed Northwest Coastal cultures. Therefore, to call Wakemap Mound a "Plateau" site, and Wakemap artifact types a "basic Plateau material culture" when they are found in Southwestern Washington, are both gross errors which should not be accorded the status of tentative working hypotheses.

It seems to me that Bryan's hypothesis of a "Trans-Cascadian" tradition and province (see Bryan's discussion which follows) on both flanks of the Cascades may well be the best working hypothesis yet formulated to explain the interrelated developments which culminated in the ethnographic "Coastal" and "Plateau" cultures in Washington. Whether or not such a tradition can be fitted into Willey and Phillips (1957) scheme is largely beside the point. If we know that Basin influences were strong at a very early date in The Dalles-Deschutes region, and that Wakemap Mound represents a relatively recent development (ca. 500 A.D., at the earliest) showing strong "Coastal" influences, then why should we not hypothesize that the culture history of Southwestern Washington was profoundly influenced by geographical and ecological factors, and that a widespread Coast-Interior or "Trans-Cascadian" tradition post-dating an Early Lithic period, and antedating "Plateau" or "Coastal" climaxes, actually existed? I am tempted to speculate about how and when such a tradition came into being, but instead I shall close my discussion with a tabular summary of some of the known cultures and sequences in the Northwest and the postulated place of a "Trans-Cascadian" tradition in such a summary.

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Table 1. The trial correlations shown in Table 1 are not complete. A solid horizontal line indicates a C-14 date. A broken horizontal line denotes sites or levels of sites which were dated by other methods, or uncertain dates. Site names are placed within parentheses. Broken vertical lines divide contiguous areas or sites.

TABLE I
COLUMBIA - FRASER CHRONOLOGY
TRIAL SEQUENCES

FRASER RIVER DRAINAGE

AREA	GULF OF GEORGIA		FRASER DELTA	UPPER FRASER
TIME	(Borden, 1958)	(Borden, 1958)	(Borden, 1953-54, 1958)	(Borden, 1958)
1800			COAST SALISH (TSELAX VILLAGE) 660 ± 130 B.P.	UPPER STALO
1300	INTERMEDIATE		INTERMEDIATE	(DjRi: 3)
400	1580 ± 140 B.P. EARLY "ESKIMOID" (WHALEN FARM) 2450 ± 160 B.P.	(LOCARNO BEACH) 2430 ± 163 B.P.	EARLY INTERMEDIATE (MARPOLE-POINT GRAY-OLD MUSQUEAM) 2102 B.P.	
1AD				
500				
1000				
3000				
5000				8150 ± 310 B.P.
6000				

COLUMBIA RIVER DRAINAGE

AREA	SW WASH.	DALLES - DESCHUTES		McNARY	MIDDLE COLUMBIA	
TIME	(Tuohy + Bryan)	(Butler, 1958)	(Cressman, 1958)	(Crabtree, 1957)	(Swanson, 1956)	(Swanson, 1956)
1800		WISHRAM	CONTACT HISTORIC	EMERGENCE OF PLATEAU CULTURE (Swanson, N.d.)	CE III	CHIEF JOSEPH (Osborne et al, 1952)
1400		530 ± 200 B.P.	FULL PROTOHISTORIC		CAYUSE II	UPPER COULEE (Mills + Osborne, 1952)
1300		WAKEMAP IV LATE PERIOD 1090 ± 200 B.P.			PHASES I	MOSES LAKE (Daugherty, 1952)
					(VANTAGE)	
500		WAKEMAP I	LATE (FIVE MILE RAPIDS)	RABBIT ID. II	III	
1AD		MIDDLE		WALULA GAP PHASE	FRENCHMAN SPRINGS PHASES II	
500	TRANS-CASCADIAN	PERIOD		RABBIT ID. I	I	
2000						
4000			6090 ± 80 B.P. TRANSITIONAL 7875 ± 100 B.P.			
6000		EARLY RIVERINE	EARLY		VANTAGE II VANTAGE I 7000 B.C.	LIND COULEE 9400 ± 940 B.P. (Daugherty, 1956)
8000		LITHIC				

Discussion (by Bryan)

In a general resumé of the status of Western Washington archaeology, the junior author presented a condensation of his thinking about Southwestern Washington (Bryan, 1957). Claude Warren, elsewhere in this journal, has acutely criticised the generalizations I made at that time. Warren is certainly justified in stating that I had "oversimplified the problems of Southwestern Washington archaeology" in my 1957 article, although it should be made clear that my statements about Southwestern Washington archaeology were subordinate to the central theme of that paper. My statement that a "Plateau-like tradition" was of "long-standing duration" in Southwestern Washington does lack stratigraphic substantiation. Thus, Warren is also justified in believing that this hypothesis was premature. All of us agree that intensive and meticulous archaeological excavation must be initiated soon in order to substantiate or refute any such generalizations. Despite this, I believe that generalizations based upon limited knowledge have value as working hypotheses.

Warren also has shown that my incomplete listings of "Plateau-like" and "Coastal" traits do not necessarily support my thesis. Rather, the much needed information he has presented from sites along the Columbia River seems to support my original idea that small points, a cairn burial, and a deep semi-subterranean house pit found at a site I excavated (in the Yale Reservoir of the Lewis River) were protohistoric in age (Bryan, 1955a). Further work may continue to support this hypothesis of a late "overlay" from the Plateau. However, the possibility that the general cultural tradition in Southwestern Washington has been intimately related to the tradition east of the Cascades for a longer range of time would not be discounted by proof of such a late "overlay". Earl Swanson is now writing an important paper entitled "The Emergence of Plateau Culture," in which he is attempting to show that the ethnographic Plateau culture was not present in the Vantage area of the "Middle Columbia" until about 1300 A.D. There are suggestions that it was older than this on the eastern flanks of the Cascades in the Methow area. Perhaps there is a direct parallel to this situation on the west side of the Cascades where Warren found that the "Plateau-like" tradition is much stronger and has more time depth in the western foothills than in the Lake River-Sauvies Island area of the Columbia River.

Warren berates me for generalizing about the whole of Southwestern Washington from knowledge of only the eastern third of the area. Because of the brevity of my 1957 resumé, I did not mention the collections I had seen from the Willapa Hills and Willapa Bay as well as from the Chehalis and Kelso areas. Likewise, I did not mention the deep, lipped, circular depression near Rochester in Thurston County which Harlan Smith interpreted as a house pit (Smith; 1910:147). This pit is near the center of the Puget-Willamette Lowland in one of the "prairie island" areas of Southwestern Washington. The factor which finally made me conclude that the mutual interrelationships between Southwestern Washington and the "Plateau" had been of long-standing duration was the pipeline sites and the artifacts from them. As already mentioned, narrow leaf points, some of which are serrated, girdled stones, and milling stones have their closest parallels east of the Cascades at an early time.

George Gibbs (1877:164) discussed the Indians of Western Washington after recognizing four geographic subdivisions of that area. These are the Puget Sound, the Columbia River, the Coastal strip west of the Cascade Range (including the Olympic Mountains and the Willapa Hills), and the small "prairies" or "prairie islands." The latter are found throughout the Puget-Willamette Lowland from the southern end of the Willamette Valley to the southern tip of Vancouver Island. Warrens's work has been restricted to the Columbia River which bisects the Coastal strip and the Puget-Willamette Lowland. His information shows that influences from the Coast penetrated the Puget Lowland only along the Columbia. These "Coastal" influences may have been predominant along the Columbia at various times, but there is little evidence that they penetrated the Puget Lowland with much strength.

Occupation within the large Puget Lowland subarea is logically limited to the natural prairies which did not require clearing and which were natural habitats for large game animals (i.e., elk). At present, these prairies comprise a limited portion of the area. The question then arises as to whether or not these prairie areas may have formed a larger part of the Puget Lowland in former times. All sources agree that the fir forests have been rapidly encroaching upon the prairies during historic times (Buechner, 1953: 161; Nikiforoff, 1937:209). Many authorities have even attributed the persistence of the prairies to periodic burning by the Indians. While this may be true, it does not negate the possibility that this process of a decrease in size has been continuing since the end of the Altithermal about 2500 years ago (cf. Piper, 1906:44). Prairies contain a characteristic type of black top soil formed by the decomposing grass cover (Nikiforoff, 1937:206). This soil rapidly becomes altered after forest encroachment (Dr. S. P. Gessel, 1958, personal communication). Detection of former prairies by soil analysis is therefore a more difficult problem than one would think. Soil and pollen analyses should be made throughout the Puget-Willamette Lowland in order to determine the former extent of the prairies. The site near the East Fork of the Lewis River (45-Cl-54) was located in a fine sandy loam which is similar to that found on nearby prairies except that it is lighter in color and contains less sand (Mangum, 1913:2172-73). The forest cover was cleared before farming could be practiced on this site in recent times. It seems unlikely that this locality was forested while it was occupied in prehistoric times. Pollen analysis of the soil horizons may help to tell us when the site could have been used without the necessity of clearing the forest. When one considers the types of artifacts found at this locality, it seems entirely possible that the occupation took place during the Altithermal, when the prairies presumably would have been at their greatest extent.

Those prairies found adjacent to rivers on the Puget Sound could be utilized by people whose subsistence was oriented toward the water. However, many prairies are entirely land-locked which suggests a subsistence pattern oriented toward land hunting and plant collecting. Gibbs states that during ethnographic times, the Upper Chehalis and the Nisqually became the most strongly equestrian among the prairie dwellers of western Washington (Gibbs, 1877:169). Most authorities believe that these two groups have long occupied the Puget Lowland of Southwestern Washington. Their adoption of the horse seems best explained as a recent addition to an old inland-oriented economy. This avoids the moot question as to whether or not the

equestrian Klickitats introduced their "Plateau-like" culture into Western Washington only after the advent of the horse (Lewis, 1906).

While working in the northern Puget Sound region, I encountered a collection of chipped stone points which had been picked up on small prairies in the area (Bryan, 1955b). At the time, I assumed that these were remnants of hunting activities left by people occupying sites along the shores. I therefore made the mistake of not intensively examining the prairies themselves for camp sites. When such surveys are made, inland camp sites occupied by land hunters may well be found in the northern Puget Sound region. I now feel that the search for evidence of my postulated early land-hunting tradition should be concentrated on these prairies in western Washington, whether or not they are adjacent to coastal or riverine environments to which archaeological activities are usually limited. Only in this way will my thesis of Trans-Cascadian similarities of long-standing duration be adequately tested.

Obviously much more work should be done before grandiose schemes of culture history in western Washington can be presented. I feel, however, that some broad generalizations would be valuable if they are presented as working hypotheses. Future workers may well have the joy of tearing the following outline of possible events to shreds, but as long as my tentative statements are taken at face value, and never accepted as dogma until proven, I will welcome the stimulation of thought they may engender.

Enlarging the scheme I outlined in my previous paper (Bryan, 1957), I would like to present the following tentative outline of events for Western Washington. There is meager evidence for the Lithic, or Early Hunter Stage in Western Washington (Osborne, 1956). The Archaic, as it has been redefined in reference to the Northwest Coast (Willey and Phillips, 1957:136) is represented by a few sites in the Puget Sound area (Bryan, 1955b), and apparently by the sites reported by Tuohy and Bryan in this journal. We do not have enough information about the Lake River-Sauvie's Island localities which contain "Coastal" influences to state whether they should be classed as Archaic or Formative in the Willey-Phillips scheme. I view the Lithic and Archaic Stage sites from Western Washington as representatives of a widespread Coast-Plateau land-oriented tradition for which I have suggested the term "Trans-Cascadian". The area encompassed by this Trans-Cascadian Tradition gradually shrank in size as the Early Maritime Tradition, oriented almost entirely towards the sea, expanded along the sea coasts, and initiated an acculturation process which culminated in a Maritime Cultural Tradition adapted to both land and sea resources. Periodically, this Maritime Tradition later penetrated the Columbia River Sub-area of Southwestern Washington. There were groups who still concentrated upon land-hunting and collecting with a lesser reliance upon riverine resources. In historic times, these people were the occupants of the "prairie islands" within the Puget Sound-Willamette Lowland. During this process of contraction, the land-oriented groups became intermediaries between the maritime peoples of the coast and the people living East of the Cascades.

The Plateau, by which the latter area is known ethnographically, can also be divided into distinct ecological sub-areas. Almost all of the archaeological information has been derived from sites in the so-called "Lower"

and "Middle" Columbia areas, most of which are within the Upper Sonoran Life Zone of the Columbia Basin. Ethnographically, the Plateau has been defined largely from descriptions of groups who lived in forested areas within the Arid Transition Zone which virtually surrounds the Columbia Basin.

Piper (1906) long ago recognized that the Humid Transition Zone West of the Cascades and the Arid Transition Zone East of the Cascades resemble each other very closely (Ibid: 51). He was aware that many of the plant communities in Western Washington, particularly those in the prairies, are closely related to those found in the Arid Transition Zone East of the Cascades (Ibid:42-44). Ecologically, the parkland areas on the eastern flanks of the Cascades may be viewed as a region which merges with the forested and prairie areas on the western flanks, and with the Puget-Willamette Lowland.

The often reiterated statement that the Cascades form an ecological and cultural "barrier" is one of several clichés which have handicapped cultural-historical interpretations in the Northwest. Examples of other clichés are statements to the effect that all of Western Washington is exceptionally wet and completely covered by a dense forest cover. Even the Coastal Strip, which does receive an excessive amount of rain and is covered by a dense rain forest, also contains large prairies. Conversely, many authors imply that the "American Plateau" is a desert or a semi-desert area. If one compares the archaeological remains found in the Columbia Basin desert with those from the Coast or Puget Sound, one sees little resemblance. These are obviously totally different areas, both ecologically and culturally. The intermediate Arid and Humid Transition Zones extending from the eastern foothills of the Cascades to the Puget Sound and Coast Range also could be viewed as a cultural province transitional from the maritime to the desert orientation. This view would not be correct, because the ethnographic Plateau Culture apparently is centered in the eastern foothills section of this transition zone, and not in the geographic center of the "Plateau". We have instead a maritime climax on the sea coasts, a "Plateau" climax on the eastern flanks of the Cascades, and an intermediate transitional sub-area of the "Plateau," or perhaps better a "Trans-Cascadian" province, on the western flanks of the Cascades and in the Puget Lowland. The Columbia Basin itself contained a cultural backwash of the "Plateau" culture, whose climax was centered in the forested areas to the West, East and North of the Basin proper (Earl Swanson, personal communication). The recent "Plateau-like overlay" found along the Columbia River in Southwestern Washington may be nothing more than a reflection of the westward spread of the latest protohistoric "Plateau" culture which developed quite recently on the eastern flanks of the Cascades. We need excavation of culturally stratified sites in Southwestern Washington to test this working hypothesis that there was a long interrelated development, termed the "Trans-Cascadian Tradition," on both flanks of the Cascades from the time of the early big game hunters through the long intermediate period of land hunting and plant collecting which culminated in the so-called "Plateau" culture. Periodic Coastal Maritime influences bisected this broad Trans-Cascadian province along the Columbia River and filtered through the Puget-Willamette Lowland and through the Cascade passes to offer stimulation to the developing protohistoric "Plateau" culture.

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Plate 1. Fig. A. Strong's Site 4 (45-Cl-11), showing circular depression on the flood plain of Lake River.

Fig. B. Rectangular house depressions at Strong's Site 4 (45-Cl-11); a large midden of shell and bone flanks the depressions.

Fig. C. 45-Cl-55 from the slope to the north of the site. The two men in the photograph are standing on the center line of the pipeline. Site 45-Cl-56 can be seen on the opposite bank of the river. In the distance is Shillapoo Lake.

Fig. D. 45-Cl-55 from the north bank of Lake River. The photo clearly shows the hearth which was exposed in the cut bank, and the swath cut through the forest by pipeline clearing crews.

Figure A

Figure B

Figure C

Figure D

Plate 2.

Fig. A. 45-C1-54, looking northwest. The site extends to the row of trees in the distance. The gap in the trees slightly to the left of the two figures indicates the location of the right-of-way.

Fig. B. Feature 1 at 45-C1-54. Beneath the one foot scale is a nether stone used in grinding. Handstones were also recovered in the cache.

Fig. C. 45-K1-105, showing one of the semicircular rock structures made by quarrying from the talus.

Fig. D. Another view of a talus pit at site 45-K1-105. The one foot scale in the photo gives some indication of the size of the structure.

Figure A

Figure B

Figure C

Figure D

Figure 1. A. Longitudinally girdled bola stone, Koethe collection, 45-Cl-54.

B. Fragment of a tubular stone pipe, Koethe collection, 45-Cl-54.

C. Longitudinally girdled bola stone, Koethe collection, 45-Cl-54.

D. Small pebble chopper from 45-Cl-54, basalt.

E. Bifacially trimmed siltstone pebble, 45-Cl-53.

F. Abrading stone of granite, 45-Sn-13.

G. Bone haft or handle, 45-Sn-13.

H. Carved stone figurine, Greene collection.

I. Half-round brass rod, filed and perforated, Greene collection.

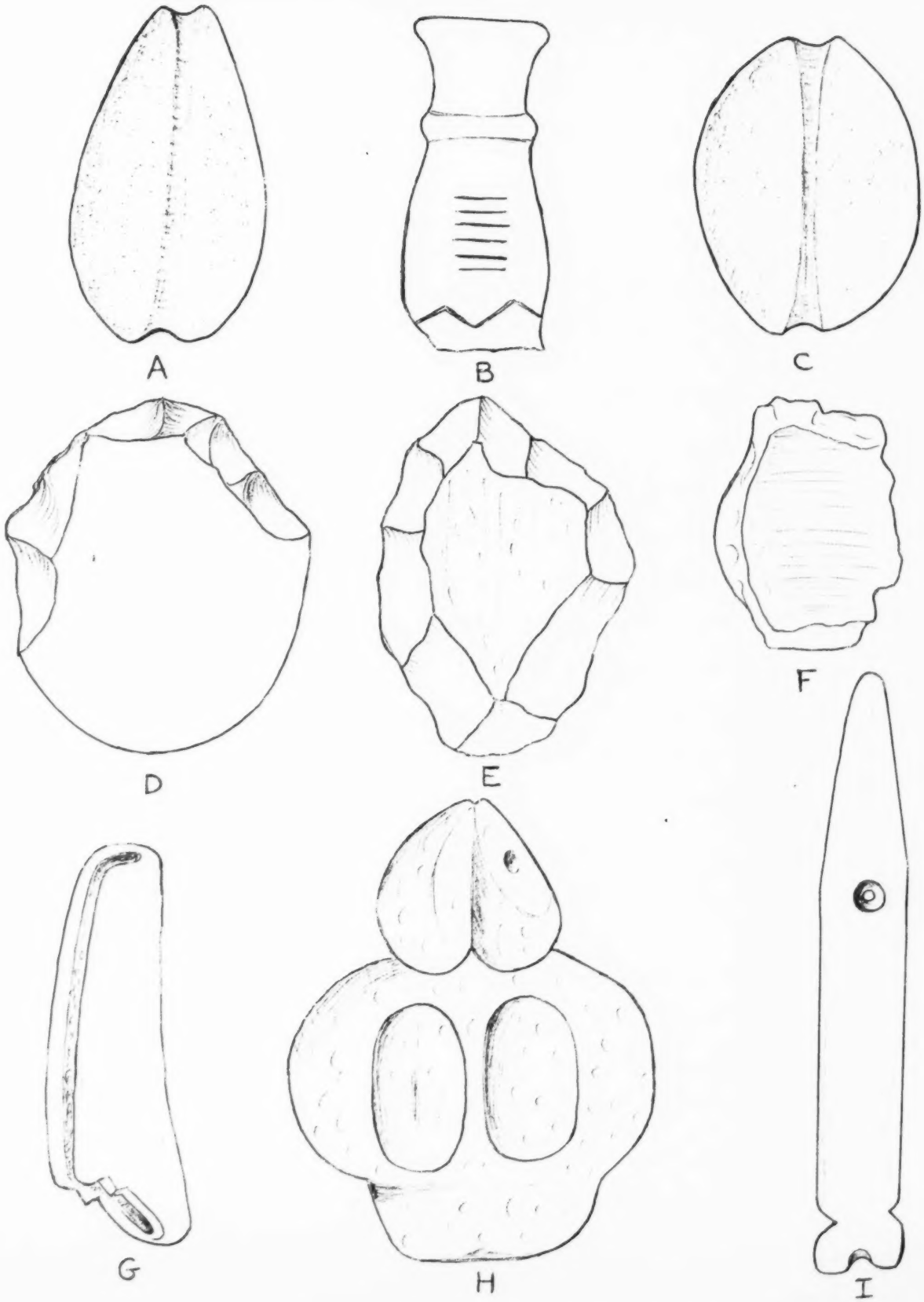

Figure 1

Figure 2.

A. Obsidian point, 45-Cl-51.

B. Keeled flake end scraper, chalcedony, 45-Cl-51.

C. Leaf-shaped point, serrated edges, chalcedony, 45-Cl-53.

D. Leaf-shaped point, serrated edges, chalcedony, 45-Cl-53.

E. Bifacially chipped, keeled scraper, 45-Cl-54.

F. Same as above, both specimens of basalt.

G. Side scraper, uniface, chalcedony, 45-Cl-54.

H. Graver, 45-Cl-54.

I. Broad leaf-shaped point, chalcedony, 45-Cl-54.

J. Plano-convex end scraper, chalcedony, 45-Cl-54.

K. Leaf-shaped point, serrated edges, 45-Cl-54.

L. Plano-convex end scraper, 45-Cl-54.

M. Graver, jasper, 45-Cl-54.

N. Blade, quartzite, 45-Cl-54.

O. Flake end scraper, 45-Cl-54.

P. Broad leaf-shaped point, 45-Le-51.

Q. Large scraper, basalt, 45-Le-51.

R. End scraper, 45-Le-51.

S. End scraper, 45-Le-51.

T. Leaf-shaped point, 45-Le-51.

U. Leaf-shaped point, basalt, 45-Sn-13.

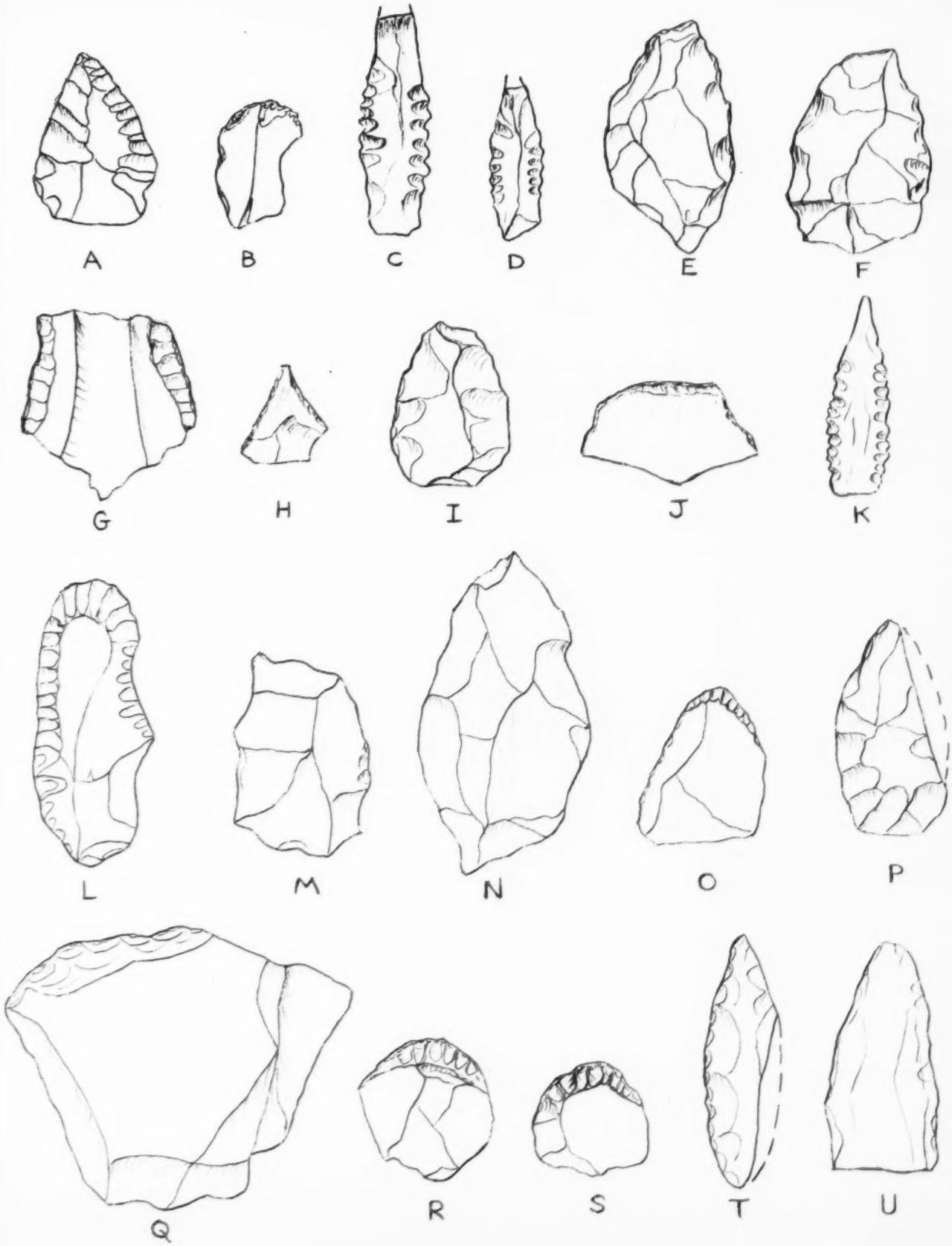

Figure 2

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TWO CLAY FIGURINES FROM SOUTHWESTERN WASHINGTON

by Alan L. Bryan

The three impressed clay objects described herein were noted in the collection of Harold Koethe of Ridgefield, Washington. Mr. Koethe kindly loaned the objects to the author, thus allowing petrographic analyses to be made by Mrs. Mary Strawn and Professor Andrei Isotoff, and drawings to be rendered by Mr. Donald Brown, all on the faculty of Idaho State College. Two of these artifacts are pieces of clay figurines, one of which has been fired. The specimens reportedly came from a site near Sara, Washington, on the Columbia River. This locality is less than a mile from the site where a truefired potsherd was previously recovered by Mr. Koethe (v. Osborne, 1957). It may be the same place where two similar objects had been found in 1932 (v. Pendergast, 1957). The objects reportedly came from a depth of three to four feet.

The fired piece is a torso of a human figurine. The oval cross-section at the lower end of the piece is freshly broken; the upper flattened oval section seems to have been intentionally squared off. There is no evidence of a neck. The upper end of the torso is identifiable by lateral holes, presumably for arms. These were formed by inserting a pointed object into the soft clay and revolving the point in a reaming action. Shoulders are indicated by bulges, into which the arms were inserted. From the front view there is a suggestion of a waist. All impressions, punctations, and incisions were made prior to firing.

A beveled facet, as if to indicate the upper part of the chest, presumably identifies the front side. The front is divided into two pattern areas. Three irregular vertical rows of horizontal fingernail impressions decorate the upper half of the torso. Another row of fingernail impressions extends beneath the left arm hole. Whereas the fingernail impressions on the front are arcs with down-curving ends, the lateral rows have up-curving ends, possibly to suggest ribs. A short series of five up-curving arcs is placed down the right side in front of the arm hole. The lower portion of the front is decorated by two parallel rows of small, round, deep punctations forming an expanding U, suggestive of an apron-like piece of clothing. The back has an incised design which could be called a "pine tree" - parallel oblique lines extending downward and outward in both directions from a vertical midline. Its placement on this piece suggests that the pattern may have been a symbolic representation of the "back bone" with branching ribs.

Dimensions:

Length - 6.24 cm.
Width at "shoulders" - 3.77 cm.
Width at "waist" - 3.33 cm.
Width at "hips" - 3.44 cm.
Thickness - 2.63 cm.

The lower portion of the "back bone" design has been burned by firing to a dark brownish gray color (between N3 and 5YR 3/1 on the Munsell chart). The crust elsewhere has a grayish orange color (10 YR 7/4) while the interior is yellowish gray (near 5 Y 7/2). The fired crust scratches at slightly under three on the hardness scale. The silty clay paste contains fragments of quartz as well as infrequent blue tourmaline and apatite crystals. It is impossible to tell whether or not these inclusions were part of the original matrix or were added as temper.

The two unfired pieces are composed of a similar homogeneous silty clay mass. They have a hardness of two and are grayish orange in color (between 10 YR 8/2 and 10 YR 7/4 on the Munsell scale). There is no apparent difference in color between the interior and exterior. The smallest object has a flattened oval shape with irregular horizontal and vertical rows of punctations on one face. The opposite face is undecorated. The wedge-shaped punctations were apparently made with a thin object having a sharp broad point in the shape of the apex of a triangle. The patterned rows of punctations were carefully made with the extreme tip end of the tool. Several irregular impressions were superimposed, apparently by allowing more of the broad point to impress. It is possible that the tool used to gouge out the arm holes in the torso specimen was similar to the pointed tool used on this piece and the figurine head. As the delicate impressions show no evidence of distortion, it is assumed that the object was allowed to harden in the sun after the decoration was completed.

Dimensions:

Length - 3.34 cm.
Width - 1.69 cm.
Thickness - 0.56 cm.

The second unfired piece is a block of clay, excurvate rectangular in plan and in end cross-section. Viewed from the side, the piece is biconvex. The object is the head of a human figurine having a decoration impressed and incised prior to hardening, possibly by the sun. The decoration represents a human head wearing a headdress. The triangular face, represented by inward and downward slanting eyes, a broad nose and short mouth, is framed laterally by three parallel vertical rows of wedge-shaped punctations separated by parallel incised lines. The same motif is repeated above the forehead on a horizontal plane. After a narrow gap above the latter portion of the design, there are two horizontal rows of thin short vertical lines separated by incised horizontal lines. The wedge-shaped punctations are almost identical to those described on the small oval piece. The same tool could have been used to make all of the impressions on this design by holding the implement at various angles and inserting it to various depths. The lower third of the design has been removed by carving a beveled facet. Such facets were carved on the undecorated dorsal side at both ends. The carving seems to have been done after drying, as the impressions are truncated and not laterally displaced as would be the case if the clay had been soft.

Dimensions:

Length - 4.65 cm.
Width - 3.17 cm. (maximum near center)
Thickness - 1.43 cm. (maximum near center)

Clay figurines with wedge-shaped punctations belonging to the same lower Columbia River complex have been recorded by Osborne (1957:30-31), and Pendergast (1957:178-180). They are known to occur as far upstream as Wakemap Mound near The Dalles (Strong, Schenck and Steward, 1930:67, pl. 11). The headdress design on the second unfired figurine is reminiscent of fine carving on antler quite frequently found farther up the Columbia. Butler (1957) illustrates several examples of these carvings from The Dalles area. Among the items illustrated is a cylindrical carving which incorporates the upturned arc motif representing ribs as well as rows of small triangles which are strikingly similar to the wedge-shaped punctations (Butler, 1951:161). The rib motif has been explained as a manifestation of the Northwestern American cultural phobia regarding the dead, which was present historically in the form of a "ghost cult" (Strong, 1945; Crabtree, 1957:92).

The so-called "pine tree" design on the back of the torso is a common Columbia River motif. Osborne (1957a:67-8, Table II, Plate 20a; also, 1957b) cites several examples of the use of this design on clay and stone. A fired potsherd exhibiting this motif was found at a site within a mile of the Sara locality (Osborne, 1957b). Osborne's supposition that this true potsherd, as yet the only one described from the Columbia-Fraser region, was indigenous and not a trade sherd, is thereby strengthened. The position of the motif on the back of the figurine suggests the possibility that the "pine tree" design may in this case be a "backbone" motif. Osborne (1957a:68) has given such an interpretation to the designs on several incised slate "figurines" associated with burials on Berrian's Island, near Umatilla, Oregon. Crabtree (1957:92) has suggested that the "rib" and "backbone" motifs are more likely associated with preoccupation with the dead rather than with ghosts. Incorporation of these elements into a prehistoric "death cult" will require further data.

Pendergast linked his two small pieces of clay with wedge-shaped impressions from Sara, with Northern California figurines and rejected the possibility of influence from the Southwest. He suggests "that the Washington and Northern California figurines are manifestations of an impetus which arose within the generalized Northwest Coast culture pattern independent of influences from outside sources." He then argues that the Central California clay figurine complex is also the result of independent development (Pendergast, 1957:179-180).

Although Sara is geographically in Western Washington and thereby falls within the ethnographic Northwest Coast area, the above discussion has shown that the closest recorded parallels lie upriver east of the Cascades in ethnographic Plateau. Thus there is no evidence that the Washington figurine complex arose within the Northwest Coast culture area; nor is there any evidence that it originated in the Plateau.

It seems that the larger complex, which includes decorated stone and antler, as well as clay, is most highly developed in the area straddling the Cascades from The Dalles to Vancouver and becomes weaker farther up the Columbia in the heart of the "Plateau" (Osborne, 1957a). Even further upriver, after the Columbia turns back to parallel the eastern foothills of the Cascades, the complex once again becomes more strongly developed, using the

medium of antler (v. Crabtree, 1957). On the basis of available data this means that the center of the complex is associated with the American Plateau culture area only along its western extremities and the strongest manifestations are found in the zone which has always been considered as the boundary between the Northwest Coast and Plateau culture areas. Perhaps students should reorient their thinking to consider the possibility of a Trans-Cascadian province which is neither Northwest Coast nor arid Plateau (Columbia Basin) in orientation. To me it seems more plausible to view this Trans-Cascadian ecological province, especially along the Columbia, as more of a cultural unifier than a cultural barrier.

The following chart may eventually prove to be misleading after more data from the Columbia River are recorded, but on the basis of present evidence, several conclusions are apparent.

x = present
- = absent
R = rare
? = questionable

	Columbia River	Central Calif.	North. Calif.	North. Periph.	Basket-maker III
Sex indicator	-?	x	x	x	x
female	-	x	x	x	x
Limbs - stump legs	?	-	-	R	-
arm holes	x	R	-	-	-
Facial features	x	-?	-?	x	x
protrusions	-	-	-	x	x
punctations directly on face	x	-	-	-	x
Hair, ornaments, clothing					
applied clay elements	-	-	-	x	-
punctations & incisions on body	x	?	?	-	x
Headdress (punctations & incisions)	x	-	-	-	-
Fired	x	x	x	-	-
Unfired	x	?	?	x	x
Decorated dorsal aspect	x	-	-	-	-
Punctations directly on body	x	x	x	-	x
short line and dot	-	x	x	-	x
wedge-shaped	x	-	-	-	-
Incisions	x	x	x	-	R
straight line	x	x	x	-	-
curved line	x	?	?	-	-
Fingernail impressions	x	-	-	-	-
Schematized "backbone" & "rib" motifs	x	-	-	-	-

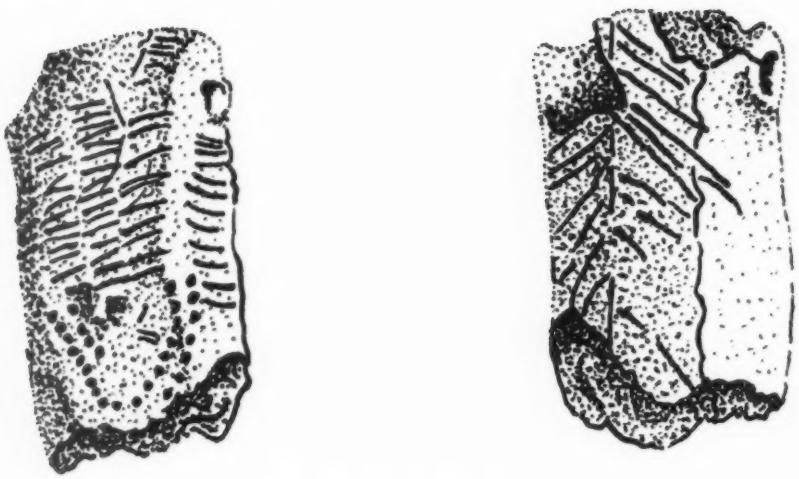
Comparison of the elements present on clay figurines from Northern Periphery reveals no obvious relationship with the Lower Columbia figurines (cf. Morss, 1954:14, figs. 20, 21). The Basketmaker III specimens seem equally unrelated to those from the Columbia River, although punctations do occur in the Four Corners area (cf. Morss, 1954:9, fig. 19). Punctations and incisions are characteristic of California figurines, although the predominant motifs - zig-zag and wavy lines - are not found on the Columbia River examples.

Illustrations of figurines from Central and Northern California (v. Heizer and Pendergast, 1947, figs. 62, 63) bolster the conclusion demonstrated in the table that the two California regions are more closely related to each other than to other areas. Farther afield, California appears to be most closely related to the Four Corners region, although even here the similarities are slight.

Inadequate data, especially from the Columbia River area, force the conclusion at this time that the several widespread figurine complexes will permit no more than hunches to be expressed as to possible relationships or independent developments. My opinion is that the idea of making clay figurines may well have spread widely throughout the Western United States and that several design areas evolved therefrom. Subsequent exchange of elements between neighboring areas undoubtedly occurred.

An equally moot question is left unanswered when the problem of the function(s) of clay figurines is broached. That all clay figurines were playthings seems unlikely, although crudely molded heads were fashioned for tule dolls by the Sanpoil (Ray, 1932:40). Most authorities conclude that figurines performed some function in an "increase cult". The apparent stylistic relationship between the clay figurines and the carved antler complex of the Columbia River, specifically in regards to a "rib" motif, strengthens the possibility that these northern clay figurines played some role in a Northwest "death cult".

Unfired Specimens



Two views, Fired Clay Figurine

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THE PREHISTORY OF THE DICE GAME IN THE SOUTHERN PLATEAU[1]

by B. Robert Butler

Implements recently recovered from The Dalles Reservoir on the lower Columbia River and from the Priest Rapids Reservoir[2] in central Washington suggest an interesting but rather brief prehistory of the dice game in the Southern Plateau.[3] These implements are in the form of stick-dice,[4] most of which have been recovered by amateurs.

Historically, the dice game was played throughout the Plateau (Ray, 1942:183). Implements used in the game had a variety of forms, straight and curved, the crescentic beaver-incisor die being the most frequently mentioned type. Usually all the types of dice were marked on one side or face, the markings consisting of incised circles, dots, zig-zags or transverse lines. An occasional die was unmarked. The number of dice used varied from 2-6, but was most often four. Among the Wishram, who occupied the Washington shore of The Dalles Reservoir, four (deer?) bone stick-dice were used (Spier and Sapir, 1930:267). These were about 18.0 cms long, 1.3 cms wide, flat on one side, slightly convex on the other, somewhat pointed at the ends and marked in pairs on the convex side. One pair, called "men", had a line of crosses along this side. The other pair, called "women", had two longitudinal lines of dots, crossing which were transverse lines.

Between 1953 and 1957, amateurs and professionals (Caldwell, 1956; Butler, 1957a, b, and c, 1958a and b) dug into a considerable number of sites on the Washington shore of The Dalles Reservoir and recovered a wide variety of artifacts. This activity resulted in a fairly broad sampling of the archaeology of that shore of the reservoir. Among the items recovered were some which resemble the Wishram stick-dice. These items are divisible into two general types, (1) smaller stick-dice and (2) larger stick-dice. There appears to be some correspondence between these types and their relative antiquity. All of the smaller type were recovered from a stratum of Wakemap Mound which may date from about A. D. 1400 (Butler, 1957c:161). The larger type were associated with late cremations which date from approximately A. D. 1600-1800 (Butler, 1957a). At the present writing, no other types of dice (nor hand) game implements have been identified archaeologically in The Dalles Reservoir.

The writer has records of eleven of the smaller stick-dice recovered by amateurs from Wakemap Mound. These (Fig. 1, e-g) are thin, flat objects, made of bone, which are more or less rectangular or lenticular in outline. In size, they range from 2.9-4.7 cms in length, 0.8-1.2 cms in width and average 0.3 cms in thickness. The majority are well made, and one which may be made from fossilized bone, is beautifully polished and very neatly marked. All are marked on one face only.

There are three principal patterns of markings: a row of dots along the midline of the face, one or more zig-zag lines down the face, or three groups of lines incised across the face. In the last instance, a group of lines (2, 3 or 4 in number) has been incised across both ends of the piece

and across the center. Caldwell (1956:160) recovered an unmarked bone object from the same level of the mound, which resembles these in size and general form. Strong, Schenck and Steward (1930:58) report two such objects from the mound. One is unmarked; the other has traces of a design in black (pigment?) on one side. They suggest that these were probably used as dice.

Bone, antler and even such perishables as wood and basketry are generally well preserved in the older levels of Wakemap Mound, which probably date from about A. D. 900 (Butler, 1958b:63). If the dice game had been played by the inhabitants of the mound prior to A. D. 1400, or thereabouts, it is indeed surprising that no evidence for it has been recovered from the older levels of the mound. Of course, it is possible that some sort of implement was associated with the dice game at an earlier time, which we have not yet recognized in the older levels of the mound. However, this seems doubtful. The dice from the upper levels of the mound are remarkably similar in size and form to those found archaeologically in the Southwest (Culin, 1907:48; Judd, 1954:279). Interestingly, these have been found in association with Pueblo I and on; one suspects that game may have diffused from that area at about this time level.

The more recent, larger type of stick-dice have been found in fairly large numbers in The Dalles Reservoir. The writer has observed some thirty or more in private collections and has recovered eleven complete and fragmentary specimens from a late cremation site near Wakemap Mound (Butler, 1958b:146-147, 164). Those in the private collections were reported to have come from late cremations with the exception of a burned specimen which was collected from a sandbank on the Washington shore of The Dalles Reservoir. Rather than attempt a description of all of these, a representative sample of four specimens has been selected.

Characteristically, the larger type of stick-dice are rather long, narrow and relatively thick implements made of bone and, possibly, antler. There are two principal variants. The first (Fig. 1, a) is quite long and flat with nearly parallel edges which taper in slightly to squared ends. The single specimen included in the sample is 12.0 cms long, 1.7 cms wide and 0.5 cms thick. It is made of bone and has repetitive geometric markings on one face. The markings consist of two incised lines across either end of the piece and four transverse zig-zag elements incised in relief which are separated from each other by a concentric circle and dot element uniformly spaced along the face of the piece.

The second variant (Fig. 1, b-d) is the most commonly found. It is usually thicker, but shorter and narrower than the first. Typically, the edges are excurvate, tapering in to squared or somewhat rounded ends. An illustrated specimen (Fig. 1, b) is rectangular in outline with rounded ends. Most are made of bone, a few of antler (Butler, 1958b:146). The second variant has a marked, flat side and an unmarked, convex side. Generally, the marking pattern consists of two large, deeply incised triangles or chevrons which have their apexes pointing towards the ends of the piece (Fig. 1, b-c). The space between the triangles is variously marked (for example, Steward, 1927: Plate II, j-k). The ends may be plain or marked with cross lines. An occasional specimen may be marked with a row of dots (Fig. 1, d). This

variant ranges from 5.9-8.7 cms in length, 0.8-1.2 cms in width and 0.6-0.8 cms in thickness. Both variants of the larger type stick-dice have been found in association.

Stick-dice similar to the larger type found in The Dalles Reservoir have been reported from the Priest Rapids area in central Washington (Crabtree, 1957:84) and from the Chief Joseph Reservoir in north-central Washington (Osborne, et al., 1952:363-365). Apparently all of these have been recovered from archaeological components of an age comparable to the late cremations in The Dalles Reservoir. An unusual collection of very crudely made stick-dice of this general type was obtained from what may be a late prehistoric house pit on Osborne bar in the Priest Rapids Reservoir. There are eight specimens in the collection. Two are fragmentary specimens of deer rib with groups of scratches across one face. Five are splinters of long bone, four of which have deeply incised, widely spaced lines across the convex side of the splinter. The fifth splinter has widely spaced rows of dots across the convex side. The five specimens range from 6.0-7.7 cms in length and average about 1.1 cms in width. A specimen similar to these was recovered from a house pit at 45-KT-3 which is in the same reservoir area. The eighth specimen from Osborne bar resembles the second variant of the larger type stick-dice from The Dalles area and is better made than the others in the collection.

Beaver-incisor dice have also been recovered from the Southern Plateau, comparable to an excellent series obtained by Collier, Hudson and Ford (1942: 90-91) from historic burials in the upper Columbia region. Of the fourteen marked specimens recovered from the burials, nine had incised lines and four had dots. Crabtree (1957:36) found five beaver-incisor dice associated with his Rabbit Island II component in the McNary Reservoir. This component falls within the late phase of the McNary Reservoir (Crabtree, 1957:115). Osborne (1957:90) also recovered a number of incised beaver-incisors from the McNary Reservoir and suggests that they are most likely gaming pieces.

Strong, Schenck and Steward (1930:58) report three unmarked, fragmentary beaver teeth from Wakemap Mound, but do not indicate their provenience. Because of the widespread use of beaver-incisors as implements in the dice game, they indicate the possibility that these may have been used as dice. With this possible exception then, it appears that where beaver-incisor dice have been found archaeologically in the Southern Plateau, they occur in late prehistoric or early historic contexts.

The prehistory of the dice game in the Southern Plateau as seen from The Dalles area is one of relatively small time depth, but one in which there has been a significant change in the types of dice employed in the game. The earliest known type in The Dalles area is a small, thin stick-die which apparently dates from about A. D. 1400. This type is replaced or succeeded by a larger type of stick-dice which dates from about A. D. 1600-1800 and which resembles the type in use among the Wishram. However, the latter are still larger, suggesting that the stick-dice may have continued increasing in size.

There has also been some change in the marking patterns of the dice. The earliest patterns - a row of dots, longitudinal zig-zags, and groups of

incised cross lines - continue in some degree up to historic times. However, a new marking pattern consisting of deeply incised triangles appears to dominate in the period dating from A. D. 1600-1800. The marking patterns also appear to become more complex during this period.

Perhaps largely due to the small amount of professional archaeology carried out in the Southern Plateau, the smaller, earlier type of stick-dice found in The Dalles area has not been reported elsewhere in the Southern Plateau. The later, larger type of stick-dice and beaver-incisor dice were apparently well known throughout the Southern Plateau during the late prehistoric and early historic period. Therefore, it may be suggested that the dice game was first introduced or diffused into The Dalles area around A. D. 1400 and thence to the Southern Plateau in general at a later period.

It should be noted that the larger type of stick-dice are also reported historically among tribes in the Northern Great Plains (Culin, 1907: 57). Garner (personal communication) has observed the occurrence of both the larger and smaller types in the same sets of dice game implements in use by the Northern Cheyenne. In this instance, the larger pieces were used as counters and the smaller ones as gaming pieces.

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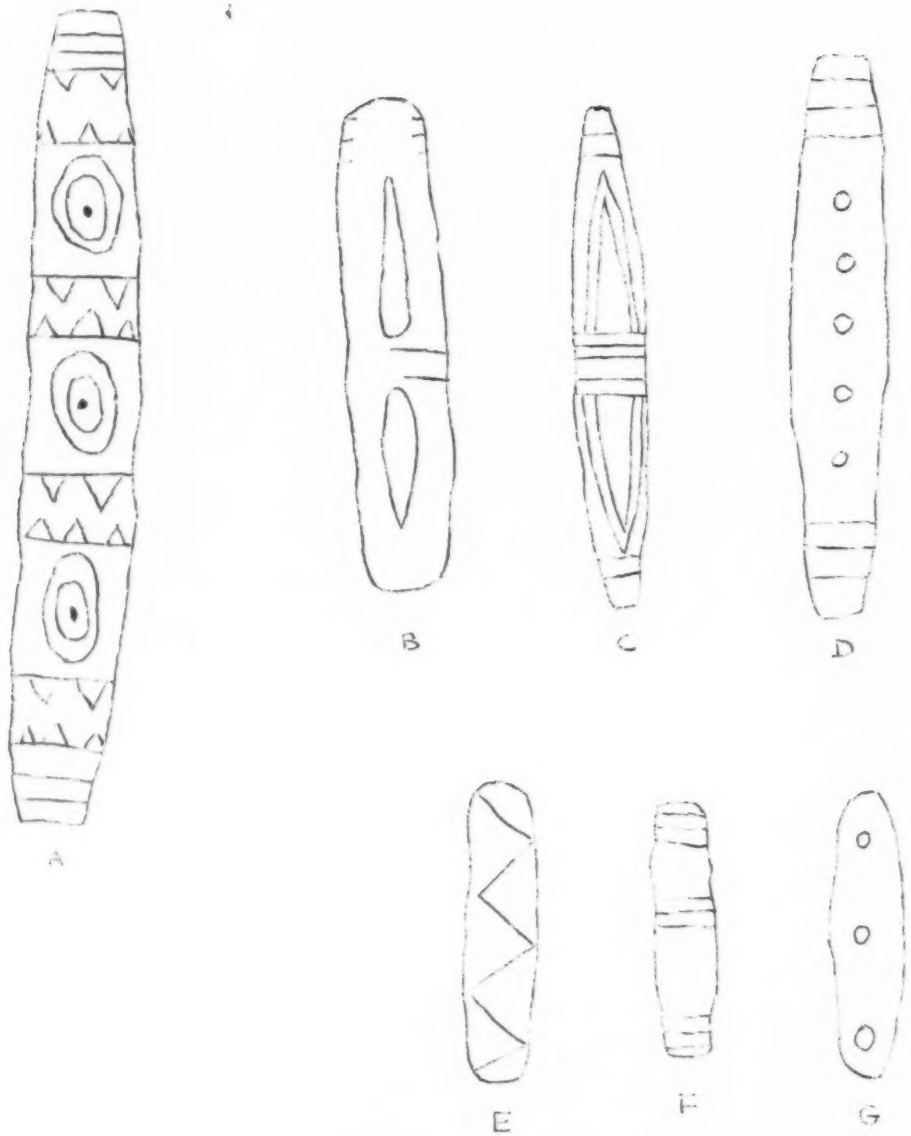

Fig. 1. Stick-Dice From The Dalles Area; A-D are from late cremations; E-G are from Wakemap Mound. Scale: Full size.

NOTES

[1] Deep appreciation is expressed to Mr. James Garner, assistant curator of anthropology at the Washington State Museum, for a critical reading of this paper and his contribution to it. Dr. Douglas Osborne, U. S. National Park Service, had read an earlier version of the paper; his comments on that paper have served to shape the present one. Acknowledgement is also due Mrs. Glen Harris, University of Washington, for her suggestions pertaining to the introduction. Msrs. Ted Weld and Charles Nelson of the Washington Archaeological Society very kindly loaned their materials to the author for inclusion in the paper. Thanks are also due Miss Laura Newell, University of Washington Department of Anthropology, for a final reading of the paper.

[2] For purposes of this paper, the Priest Rapids Reservoir area is that area of the Columbia in central Washington surveyed by John M. Campbell in 1950, the report on which was submitted by Shiner (1951).

[3] The Dalles area may be properly thought of as an upriver extension of the Coast, but has been included here in the Southern Plateau.

[4] The term "stick-dice" refers to a type of die, not to a particular material (Culin, 1907:44-225).

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ARCHAEOLOGICAL SURVEY OF THE METHOW VALLEY, WASHINGTON

by Earl H. Swanson, Jr.

The Methow River originates on the eastern slope of the Cascade Mountains and falls steeply to the Columbia River at Pateros, Washington. Its principal tributary is the Twisp River, which joins the Methow at the town of Twisp. Above Twisp, the river moves through a broad basin, but below that point it rushes through a narrow canyon on its way to the Columbia, falling at an average of 26 feet per mile. The upper valley contains ranches, the lower valley is dotted with apple orchards. Fishing is good for trout, but salmon migrations have declined in recent years; the valley is noted for its deer hunting. A variety of wild berries flourishes on the mountain flanks above the river's course. The climate is dry and warm in summer, but is cold and, in the upper valley, subject to heavy snows in the winter. Strangely, very little wind is present. Near its junction with the Columbia, the edges of the Methow carry grass and sagebrush, the latter gradually replacing the bunchgrass. As one travels up the Methow the sage disappears and open stands of ponderosa pine move down the mountain slopes and, above Winthrop, out on to the valley floor.

Historically, this valley was the home of the Methow Indians, an Interior Salish group belonging to the Plateau culture area. Unfortunately, no fully descriptive study is in print, though a start has been made in that direction.[1]

This survey was authorized by Project 2 of the Division of Mines and Geology, Department of Conservation, State of Washington. It was set in motion by the Research Committee of the State College of Washington. I am indebted to them, to Dr. Richard D. Daugherty of that College, to Mr. Marshall T. Huntting, supervisor of the Division of Mines and Geology, and to the students who served as crew.[2]

The field work was conducted in July and August, 1957, in conjunction with excavations at the old Astor trading post, Fort Okanogan. Most of the length of the Methow River was explored, and testing took place at several sites. A number of sites were unquestionably destroyed by the catastrophic 1948 flood, which tore out great sections of the floodplain as well as older terraces. At its mouth, the Methow deposited that year over 20 feet of coarse sand.

The survey code employed is that of the Smithsonian Institution. Copies of the original report, including distribution map and field notes, are on file in the Division of Mines and Geology, Olympia; the Department of Sociology and Anthropology, State College of Washington, Pullman; and the Idaho State College Museum, Pocatello.

This paper represents a synthesis of the data.

Types of Sites

Talus Pits: Four excavated, two others seen, and two reported by an amateur. These are similar to talus pits elsewhere in eastern Washington: circles of dry-laid masonry, 7-10 feet in diameter (though sometimes oval), situated on rock slides. The pits of the Methow contain thick deposits of wood ash, charred pine cones and wood, and layers of rock, suggesting that these are a modified form of earth oven. No bone was found. Such a use would set these apart from talus pits elsewhere in the Plateau.[3]

Burials: Two "cemeteries" located (45OK36, 44). In both locations, burials are marked by rock circles about two feet in diameter, with at least 100 of these present at 36. That site also contains large rock cairns which may represent burials. An extended interment was turned up accidentally at 45OK39 by farm work, but no other data are available. Two burials were excavated on a hill above Winthrop in which the interred individuals were in a "sitting" position. This may have indicated tight flexure rather than upright position, though it was not possible to interview the amateurs responsible.

Rockshelters: 45OK34, 45, 47. The last of these contained an unusual pictograph (Fig. 2), but deposits were scanty, and had possibly been removed by road construction in front. Shelter 45 was tested, with negligible results. 45OK34 is of prime importance. It contains pictographs of several ages, some of which are Northwest Coast in character. (See Figs. 2, 3, 4). The sequence is uncertain, but it seems that the masks are more recent than the paintings in Group 5, while Group 7 is probably most recent of all, judging from the horse and rider and from the fresher condition of the paint in a more exposed location. Trenching beneath the overhang produced evidence of a hearth, a mano of rectangular shape, and a few flakes.

Housepits: 45OK30, 33, 35, 37, 40, 41, 42. Sites 40, 41 need testing for verification. Circular depressions, 20-28 feet in diameter, up to 2½ feet deep, were identified at sites 35 and 37 for a total of five. One of these at site 35 contains the stump of a 300 year old ponderosa pine, cut some 20 years ago, thus providing a terminus post quem of c. 1640 A. D. Square depressions, up to 30 feet across, as much as 3 feet deep, were recorded at sites 30, 33, 35, and 42, for a total of four. Three rectangular depressions were recorded at site 33, so that at least three different ground plans are present in the Methow River valley. Two houses were excavated at 45OK30, two tested at 35.

Sweathouses: 45OK35, 37. Small circular structure and a pile of fire-cracked rock being eroded away by Methow River at site 35. One described for site 37 has been completely destroyed.

Historic Data: Three sites (45OK37, 42, 46) are known to have been used by Methow Indians within the last 60 years. Mr. Kikendall, of Winthrop, witnessed a burial at site 37 in 1909. His comments are of interest since this location also possesses house depressions. In 1909 the Indians were mounted on horses, used a travois, and lived in tipis, spending only a portion of the summer in the upper valley.[4] Similar accounts were given by other people

in the upper valley concerning a large campground below Twisp, now intensively farmed. This site (42) was one where "large numbers" of Indians died around the turn of the century from complications associated with measles. The complications apparently developed in connection with sweat baths which were followed by plunges into the icy Methow River! Mr. Lloyd Williams, of the town of Methow, informed us that 45OK46 was used for fishing in 1908. A mat blind, however, was used rather than a platform. A rock causeway one mile below Twisp, used by Indians for fishing, was destroyed in 1948, but a wooden platform still survives at site 30, near the mouth of the river. Both were used until "a few years ago." An old Methow Indian still comes in the autumn to the Kikendall Ranch above Winthrop, for the purpose of spearing salmon. Mr. Kikendall described the spears to us as being either three or four-tined, barbed, and of two pieces of wood glued and bound together. Mr. Williams said that the spears used in 1908 at 45OK46 were of variable length, four-tined, and barbed. Below the platform at 45OK30, a three-tined, barbed, two-piece arrow was retrieved from brush along the river's edge. Neither Mr. Kikendall nor Mr. Williams recalled the use of arrows. During the excavations at Fort Okanogan, however, a broken wooden pole with three freely moving gang hooks was recovered from the surface near the Okanogan River. Thus, whether the technique used at the Kikendall Ranch by that solitary figure out of the past represents the survival of a once-common custon is not clear. Certainly it will not be carried on much longer.

All white informants in the valley who are old enough to remember assured us that upriver occupation by Indians in the last 50-60 years took place during the summer months. Winters were spent along the Columbia, though no one seemed to remember the type of winter dwelling in use.

Artifacts: These are few in number, even where excavation took place. See Tables I and III. Private collections revealed polished "jadeite" adzes and chisels from the entire length of the valley. They conform to finds elsewhere in north central Washington.[5] Unadorned pestles were common all over, while two elaborately carved specimens came from the Twisp-Winthrop area. The finds from 45OK30 are considered below.

Pictographs: No petroglyphs were observed, which fits with Cain's observation that they were lacking in the northern part of the Plateau.[6] The pictograph at 45OK47 (Fig. 2) seems to be an abstract form of an animal referred to as a "water monster" and found at five locations in Central Washington.[7]

The large number of pictographs at 45OK34 (Figs. 2, 3, 4) presents a variety of styles and paint colors. Some were organized into groups, definable by their arrangement and the proximity of the figures, and by similarities and differences in paint used. Paints ranged from a very light orange in Group 5 (Fig. 3) to a very dark red in Group 1 (though badly faded). Because of the variable exposures, differences in weathering offer no reliable clue to the relative chronology of the groups.

The two figures in Group 1 bear similarities to several human figures described by Cain. One is a phallic male, to use Cain's term, but is paired with another figure ("Brothers") which may, however, represent a female. The male figure exhibits X-Ray ribs. The mountain goat in Group 2 and the

deer in Group 5 are found elsewhere in the Plateau, as are the concentric circles in Group 5, and the "tally mark" series in the same group. The spread-eagle appearance of the one human figure in Group 3 is found along almost the entire Columbia River,[8] and was associated with an uncertain quadruped, a category which in the Plateau has a more restricted north-south distribution than the human figure of spread-eagle type. According to Cain, the lizard form in Group 7 is also a common Plateau feature.[9]

The rather large face to the left of Group 1, in dark red (Fig. 2) is, however, unusual, and the faces shown in Figure 4 are not Plateau in style. They are definitely reminiscent of Northwest Coast masks in style, and one of them resembles a Kwakiutl death mask in the Bossom Collection at the Canadian National Museum.[10] Apart from these, the pictographs are predominantly Plateau in style and probably, therefore, in origin. Some, at least, are historic, judging from the mounted horseman. Most are probably prehistoric. The diversity at this site is unusual in the Plateau.

Excavations at 45OK30: This site, near the mouth of the Methow River, was subject to testing. Two houses were visible in profile (see Fig. 1a for one of them) and a later, square house depression was visible on the surface. This is the second instance of superimposed houses in the Central Plateau,[11] and these in turn are above a layer containing artifacts but no structural features. Tabulations of artifacts and non-artifact material are shown in Tables I and II. The stratigraphy was the same in each house, and both are similar in size and profile. From the limited testing we could not determine the plan of either house. Both have deep depressions in the center, possibly old hearths, or even earth ovens.[12] House A yielded most of the material recovered, and the most notable change is in non-artifacts. Level 8 at House A, which is the camp layer beneath the earliest floor of the house, provided mammal bone only. In the layers associated with the use of the house fish bone becomes of equal importance, quantitatively, and mussel shell is present in small quantities in the latest level (7-8) at House B. Some change in food sources appears to have taken place. The most distinctive implements are shown in Figure 1a. The bi-pronged object is similar to specimens further south, as is the round scraper (knife?).[13] Both date from the Cayuse phases or post-1300 A. D., in the Vantage region. The steep scraper illustrated is a degenerate form of the steep scraper found through a great span of time in the Vantage region, and which went through a fairly well defined series of changes. The specimen found in level 3 at House A appears to be the tag end of the typological series and, therefore, quite late in time.

Levels 15 and 16 in House B, and levels 3, 5, 7, 8 in House A are beneath a fossil A horizon from an old soil. Level 7 in House B represents a later floor cut down into the A horizon at a time when it was still forming, so that once the house was abandoned and began to fill, the sediments developed the characteristics of the A horizon. This in fact suggests that occupation of level 7, House B, was brief. This is an interesting phenomenon mainly because this soil horizon is found elsewhere in the Plateau,[14] and at Vantage it is clear that at least the Cayuse I-II phases follow the termination of soil formation. If the fossil soil at this site is comparable to that at Vantage and elsewhere, then it suggests that the development represented by the Cayuse phases began earlier in the northern portions of the

Columbia Plateau. Since this development is the emergence of the Plateau pattern of culture, the fossil soil assumes considerable importance, as does the history of the Methow valley. It means that Plateau culture may have been developed on the flanks of the Cascades (either side) as the result of stimuli from the Coast, and then spread slowly into the interior portions of the Central Plateau, where it was then bypassed by subsequent developments around the periphery of the central area.

Conclusions: The Methow River valley shows the same shift in village settlement from upriver tributaries as does the Vantage region 100 miles to the south. The development of Plateau culture appears to have been associated with a population shift to the Columbia River and its immediate hinterland. The fossil soil at 450K30 and the relationship of the artifacts to it suggests that Plateau culture emerges earlier in the north and in the foothills. Here as at Vantage this pattern develops from a hunting economy (e.g., level 8 at House A, level 16 at House B), and in this instance also contact with the Northwest Coast seems probable, as indicated by the pictographs and by the presence of jade celts, throughout the valley.

TABLE I

Distribution of Artifacts: 45-OK-30

	House A					House B		
Level:	3	5	7	8	talus	7-8	15	16
Mano:			1	1				
Hammer:			1					
Scrapers:								
Side:			1					
Steep:	1							
Round:			1					
Flakes:								
Worked:					1			
Unworked:			2	4				
Blades:					1	1		
Knives:			1			1		
Points:	1							
"Burin":			1					
Bone awl (carnivore?) fibula:			1					
Bipronged object:				1				

TABLE II

Non-Artifacts: 45-OK-30

	House A				House B		
Level:	3	5	7	8	8	15	16
Shell:	1	3	0	3	14	0	0
Fish vertebrae:	0	72	68	0	0	0	0

Beaver incisor from level 8, House A.

Mammal Bone
(All bones fragmentary)

House A

Level 3: None

Level 5:

2 tibia, deer
1 cannon bone, deer
1 scapula, deer
1 rib, deer
9 long bone fragments, deer or smaller
6 long bone fragments, small mammal

Total: 20

Level 7:

1 right tibia deer
4 ulna or radius (?), deer
1 tibia (?), deer
1 rib, deer
greater trochanter, femur, deer (?)
10 long bone fragments, deer or smaller
14 miscellaneous fragments, deer or smaller
16 long bone fragments, deer or larger
3 teeth, deer, with mandible fragment
left femur and tibia, large bird, intact

Total: 53

Level 8:

6 cannon bones, deer
1 right mandible, deer
2 ribs, deer
1 mandible fragment, deer
4 scapula, deer

Table II - continued

Level 8:

1 fragment right ascending ramus, deer
2 radius (?), deer (?)
1 mandible, rodent (?)
9 metatarsals, rabbit
4 phalanges, rabbit
1 sternum, rabbit (?)
2 calcaneum, rabbit
9 very small, miscellaneous, rodent (?)
1 long bone, large bird (?)
10 cannon bones (?), deer (?)
50 long bones, deer or smaller

Total: 102

House B

No mammal bones

Talus, House A

1 cannon bone, proximal end, deer
2 long bone fragments, large mammal
6 long bone fragments, small mammal
15 long bone fragments, deer (?)
1 glenoid fossa. scapula, deer
1 atlas fragment, deer or elk
1 fragment, reminiscent of cervical vertebra margin, but larger than deer and thicker than bovid.

Total: 25

Note: Decline in mammal bone fragments coincides with increase in fish vertebrae in House A, upward in time.

TABLE III

Artifacts from the Methow Valley

45-OK-30 (MV 1)

Catalogue No.

2 - fragment of flint knife, pointed, with convex sides and unifacial retouch; poor workmanship. 1.62 x 1.37 x .50 inches.

4 - chalcedony flake

3 - small chunk chalcedony

5 - 2 chunks of petrified wood

4 - tabular piece of jasper, some flaking at one end, but not a tool.

32 - end fragment of uniface mano, part of other face missing. Pounding also took place on grinding face; slight dark stains near edge of face. 2.50 (fragmentary) x 3.37 x 1.30 inches.

24 - end piece of mano, with organic matter on one face. 1.75 (fragmentary) x 2.75 x 1.12 inches.

24 - Quartzite hammerstone fragment. 1.75 x 1.62 x 1.50 inches.

24 - Jasper flake side scraper with neat steep retouch on one edge. Other edge irregular, unworked. 1.00 (fragmentary) x .87 x .12 inches.

1 - tip of chalcedony point, probably large originally; crude work. 1.00 (fragmentary) x .87 x .37 inches.

25 - chunk of agate

25 - chalcedony flake

24 - tabular piece of granite, no certain function.

24 - chalcedony flake, ridged, but no workmanship.

Other artifacts described in connection with this paper:

45-OK-32 (MV 2)

1 - Fragment of mano? Broken transversely, with longitudinal groove on one end leading to abraded and battered area. Quartzite? Appears bell-shaped in lateral view. Base length, 3.75 in. x 2.65 x height, 2.75 in.

2 - Mano, abraded on one face and parts of two edges, battered at one end. 4.75 x 3.25 x 2.20 in.

45-OK-34 (MV 4)

1 - mano of loaf shape with one grinding face and dark stain extending partly up one edge. Other edge has whitish ring. Battered at both ends. Quartzite?

6 - fragments of quartzite.

45-OK-35 (MV 6)

1 - small handstone with one end larger and used for pounding and having dark stains: may also have been used for grinding. Sandstone? 6.00 x 2.37 x 1.37 in.

3 - small fine grained basalt pebble battered at one end to form an indentation: crude net sinker? 3.50 x 1.87 x .62 in.

45-OK-33 (MV 5)

1 - undecorated, crude pestle, battered at large end; has irregular, heavy scars, probably from ploughing. Basalt? 9.12 x 3.00 x 2.00 inches.

45-OK-31 (MV 3)

Pestle of basalt (?), battered and abraded at one end with iron (?) stain on the end and dark organic (?) stains on sides. Undecorated but well made. 8.12 x 3.00 x 2.00 inches.

Non-Artifacts

45-OK-34

6 - rib and long bone fragments, deer? Wood and charcoal. Snail shells from lower talus pit (Daniels ranch).

45-OK-35

2 - two pieces burned long bones, deer?

4 - charcoal; calcined and unburned long bone fragments, deer? One of these may be elk.

FOOTNOTES

1. Mr. Robert Theodoratus, of the University of Washington, has begun an ethnographic study of the Methow.

2. Mr. and Mrs. Claude Warren, Mr. Matt Hill, Mr. Christopher Hulse, Mr. John Rice, and my family.

3. Collier, Donald, Hudson, Alfred E., and Ford, Arlo, Archaeology of the Upper Columbia Region, University of Washington Publications in Anthropology, Vol. 9, No. 1, 1942. Also, Swanson, Earl H., Archaeological Studies in the Vantage Region of the Columbia Plateau, Northwestern America, Ph.D. dissertation, University of Washington, 1956.

4. The notes taken during the conversations with Mr. Kikendall are on file at the Idaho State College Museum and at the Division of Mines and Geology, State of Washington, Olympia.

5. See Donald Collier, et al., op. cit.

6. Cain, H. Thomas, Petroglyphs of Central Washington, University of Washington Press, 1950, pp. 48-49.

7. ibid, p. 44.

8. ibid, p. 34.

9. ibid, p. 46.

10. A manuscript copy of the Bossom catalogue is in the Idaho State College Museum, prepared in London, 1954-55, before sale of the collection to the Canadian National Museum.

11. The other is the Shalkop site in the Vantage region; see Swanson, op. cit.

12. An earth oven was located in the floor of House 14 at the Schaake site; see Swanson, Earl H., The Schaake Village Site in Central Washington, American Antiquity, Vol. 24, No. 2, 1958, pp. 161-171.

13. Swanson, 1956, op. cit.

14. Swanson, 1956, 1958; this fossil A horizon has been found in similar circumstances in Grand Coulee (B. Robert Butler, personal communication) and was visited by me in 1958; it also showed up in the deposits of a cave (10AA15) excavated in August, 1958, by the Idaho State College Museum.

Figure 1:

A: Profile of House B, 450K30. Level 5 is clayey silt, 6 is fine gravel, 8 is gray to dark brown find sand, 9 light yellow sand, 10 very dark brown, 11, a light tan sand, 14 is extremely compact, very chalky colored clay (?); level 15 is fine sand, yellow to red with evidence of burned particles included; 16 is coarse gray sand, 17 light yellow-tan, horizontally bedded, and darker yellow at base. Definite evidence of two floors with one occupation preceding building of the house. The dip in the first floor may represent a fireplace exposed tangentially.

B: Artifacts from 450K30. Left to right - a steep scraper of chalcedony ($2\frac{1}{2}$ x $1\frac{1}{4}$ x 3/8 in.), a round knife of quartzite (2-7/8 in. diameter x 5/8 in.), a bipronged object ($2\frac{1}{4}$ x 3/4 x $\frac{1}{2}$ in.), a curved scraper of chert ($2\frac{1}{4}$ x 7/8 x 5/16 in.), and a fibula bone awl (4 x 7/16 x $\frac{1}{4}$ in.).

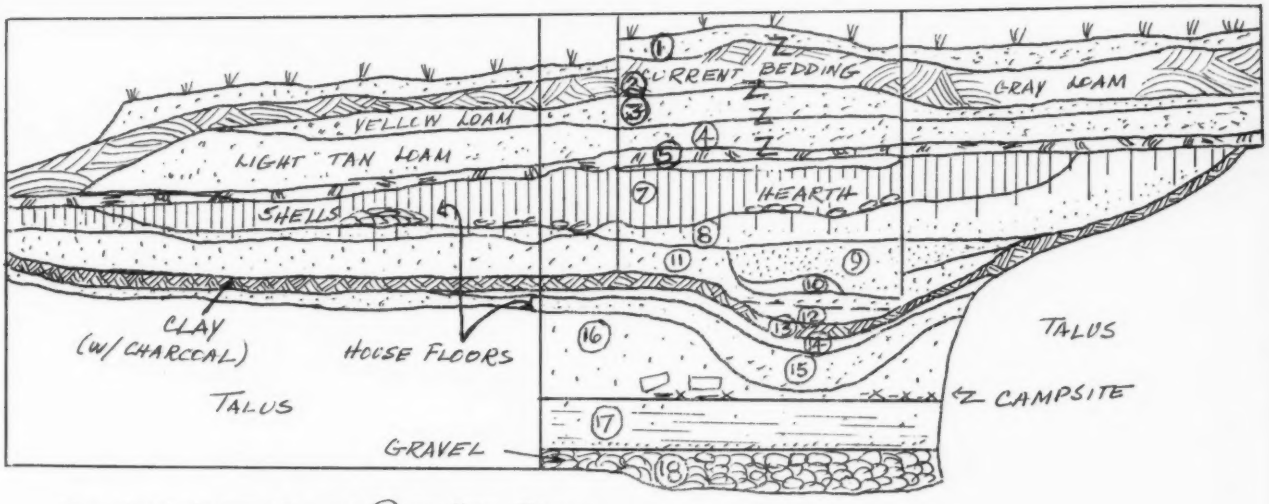


Figure 1 - A

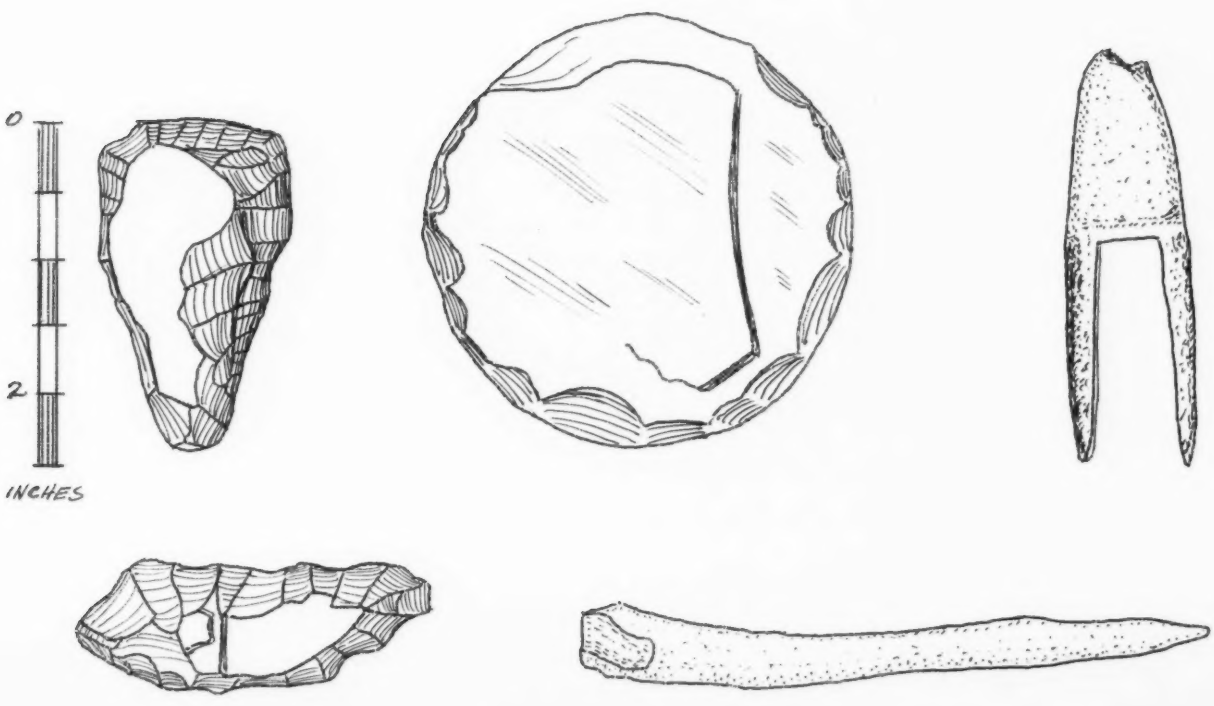
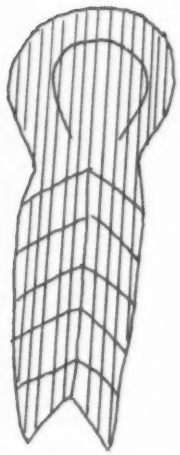
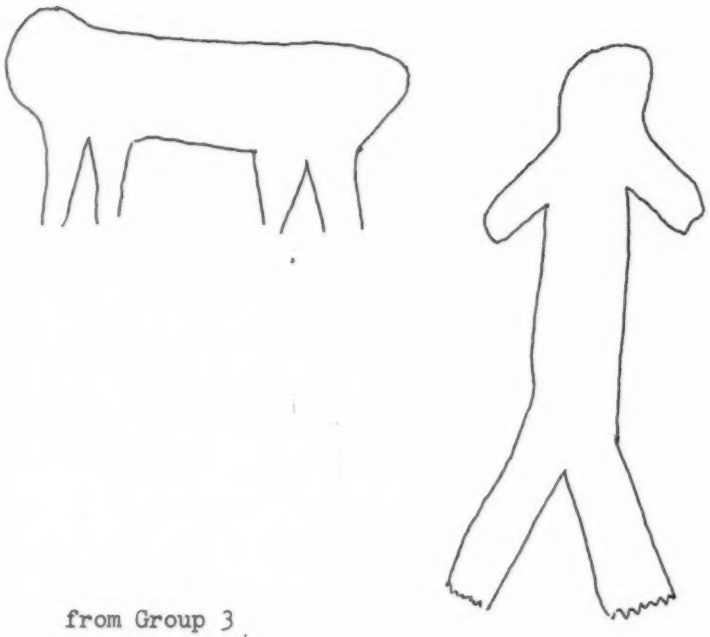


Figure 1 - B



from Group 6



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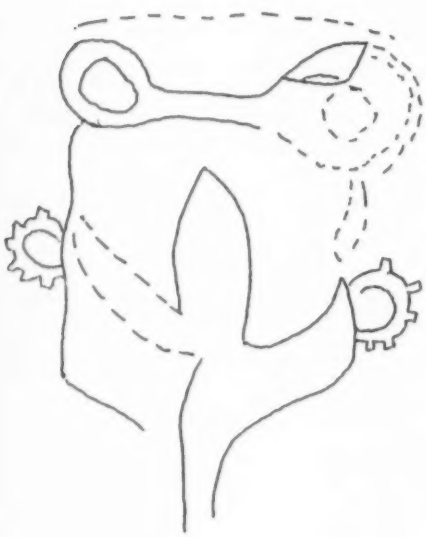
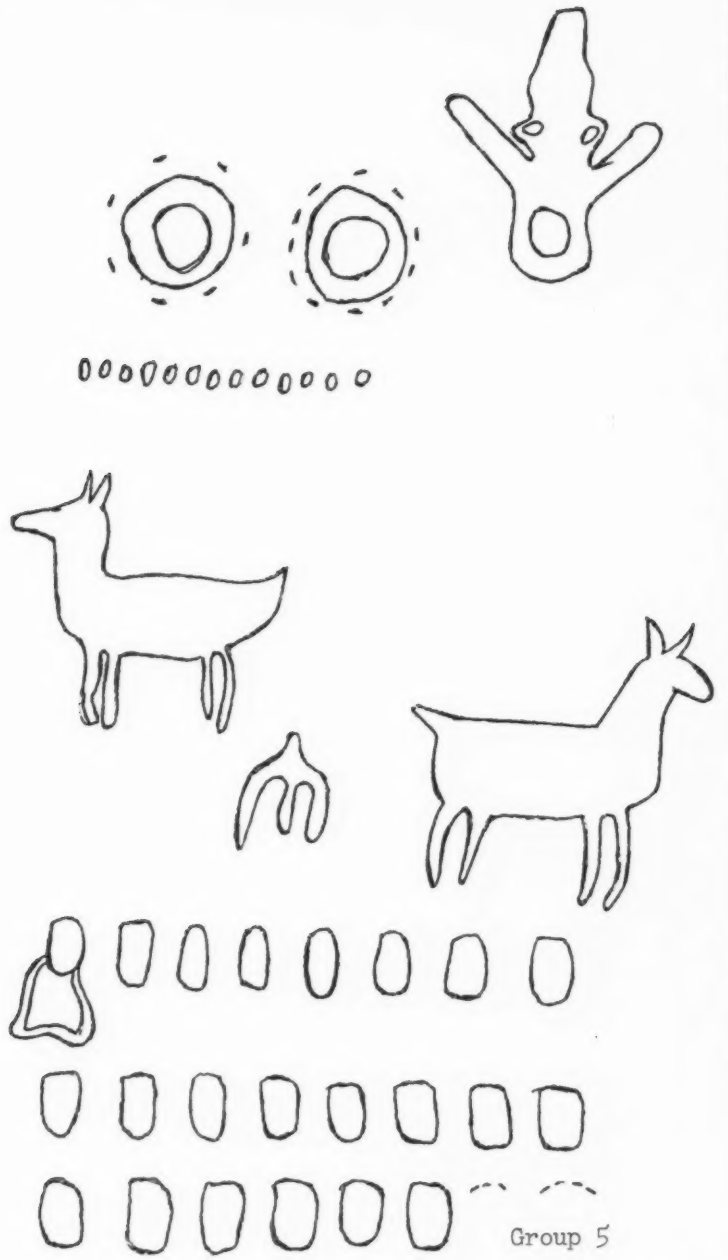


Group 2

Left of Group 1

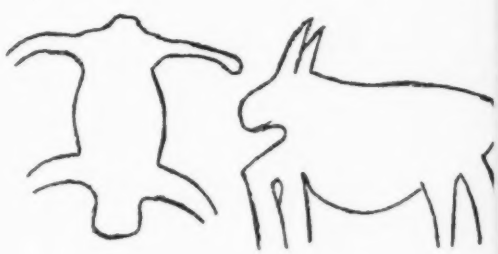
45-OK-47

Figure 2

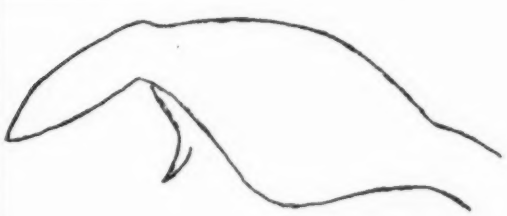


Group 5

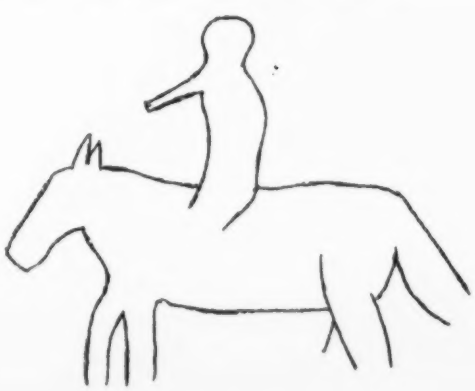
Group 1



Group 2

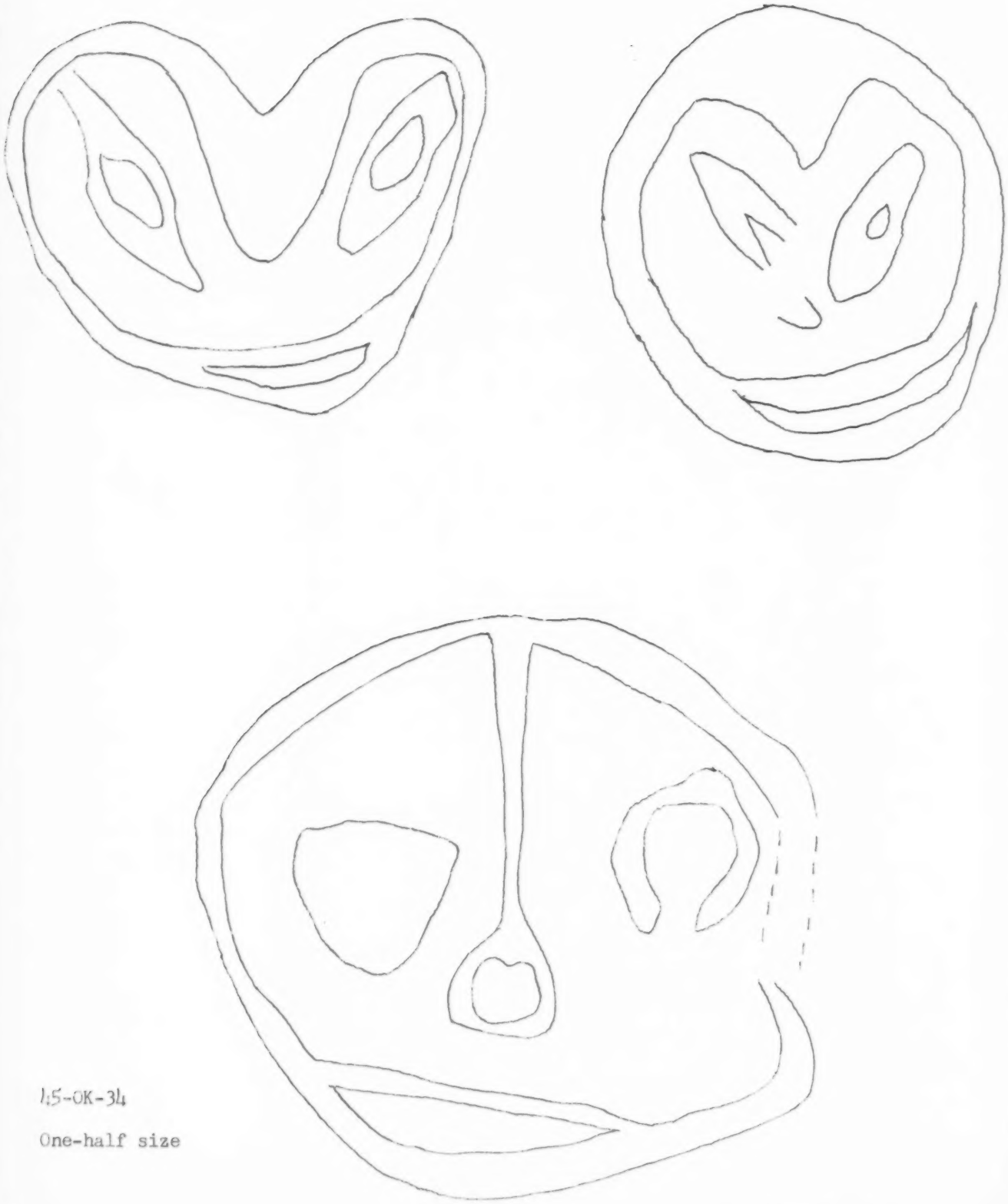


45-OK-34



Group 7

Figure 3



45-OK-34

One-half size

Figure 4

AN OPEN LETTER CONCERNING THE NAME IDAHO

TO: H. J. Swinney, Director
Idaho Historical Society
Boise, Idaho

FROM: E. H. Swanson, Director, and Donald R. Tuohy, Research Associate
The Museum
Idaho State College
Pocatello, Idaho

Dear Jerry:

Your recent article concerning the origins and meanings of the word "Idaho" (Idaho Yesterdays 2:1:26-28) seems to us to leave unexplored several possibilities. With a little trepidation we rush in to explore. May we suggest that not only are its origins unknown, but that it possibly indicates the unknown? To explain:

It is possible - it seems to us - that when George M. Willing (sly fellow?) was asked for a name for this territory, he simply said, "I dunno". Stoddard, in taking it down, probably used a shorthand, such as "I duno". Later, in preparing copy, he undoubtedly misread the "n" for an "h" and . . . . well, you know the rest. It would be interesting to know the type of environment in which the conversation took place, e.g., whether the boys were blowing foam at one another, or whether it took place in the calm of the Geographic Society's Map Room, etc., etc.

Since you may not find this a satisfactory avenue of exploration, we are diligently and meticulously working out the numerous details associated with the pursuit of a name (or a face, or, etc., etc.). Trusting that we will receive an encouraging reply from you soon, we are,

Half-respectfully yours,

Earl and Don

PAGES FOR POLEMICS

NUMIANS AND PLATEAU SHOSHONEANS

In a paper titled "Linguistic Prehistory in the Great Basin" (International Journal of American Linguistics, 24:2:95-100), published last April, Sydney M. Lamb of the University of California has made a sensible proposal.

People like the Bannock, Northern Shoshoni, Comanche, Paviotso, and Monachi, speak languages that are related. The language family to which these, and others, belong has traditionally been called Plateau Shoshonean. Lamb has pointed out, for linguistic reasons, that this name is misleading. What was once considered a major linquistic group (Shoshonean), with four divisions (Plateau Shoshonean, Pueblo Shoshonean, Kern River Shoshonean, and Southern California Shoshonean), is really no group at all. Each of the divisions is in fact a separate language family belonging to a stock known as Utaztekan. This stock contains several other families, and there is no division which can properly be labeled Shoshonean. In place of Plateau Shoshonean, Lamb has suggested the term Numic for the languages, and the people would be referred to collectively as Numians.

The word Numian is derived from one meaning "people" which is found in cognate forms among all of the languages which make up this particular family. It makes sense not only linguistically, but for another reason as well. These people are known and described from the historic period, when they were to be found not only in the Plateau, but on the Plains and in the Great Basin as well. To refer to them as Plateau Shoshoneans is both linguistic error and geographic nonsense.

That the term Numian is preferable seems reasonably clear, but only time will measure the persistence of an old habit.

E. H. S.

NOTES ON CONTRIBUTORS

Alan L. Bryan is Research Associate in Archaeology of the Idaho State College Museum, and a candidate for the Ph.D. degree in anthropology at Harvard University. He received his B.A. and M.A. degrees from the University of Washington, has carried on archaeological field work in the Pacific Northwest since 1952.

B. Robert Butler is a graduate student in anthropology at the University of Washington, where he is working for an M.A. degree. He has done field research in the Columbia Plateau, beginning in 1953.

Donald R. Tuohy is Research Associate in Archaeology of the ISC Museum, and a graduate student in anthropology at the University of Arizona. He received his B.A. degree in anthropology, sociology and geography from San Francisco State College. He has done archaeological research in Baja California, the Pacific Northwest, and elsewhere in western America.

Claude Warren is currently a graduate student in anthropology at the University of California, Los Angeles, where he is studying for his Ph.D. He is also a member of the staff of the California Archaeological Survey, and is working in the San Diego region. He has conducted archaeological research in Washington since 1953.